

JOURNAL  
OF THE  
**American Veterinary Medical Association**  
**FORMERLY AMERICAN VETERINARY REVIEW**

(Original Official Organ U. S. Vet. Med. Ass'n.)

H. Preston Hoskins, Secretary-Editor, 537 Book Building, Detroit, Mich.

---

MAURICE C. HALL, President, Washington, D. C. . M. JACOB, Treasurer, Knoxville, Tenn.

**Executive Board**

R. S. MACKELLAR, Member-at-Large and Chairman;

GEO. HILTON, 1st District; E. P. ALTHOUSE, 2nd District; L. A. MERRILLAT, 3rd District;  
C. A. CARY, 4th District; C. P. FITCH, 5th District; GEO. H. HART, 6th District;  
C. H. HAYS, 7th District; N. F. WILLIAMS, 8th District; D. H. UDALL, 9th District;  
O. V. BRUMLEY, 10th District.

---

The American Veterinary Medical Association is not responsible for views or statements published in the JOURNAL, outside of its own authorized actions.

Reprints should be ordered in advance. Prices will be sent upon application.

---

Vol. LXXVII, N. S. Vol. 30

December, 1930

No. 6

---

**PRESIDENT HALL IN DEMAND**

President Hall is keeping up the pace set by his recent predecessors in office and present indications are that he will attend about fifteen meetings during his administration. As usual, numerous difficulties have presented themselves in arranging a satisfactory schedule, largely due to the fact that so many meetings are held on the same dates. More than twenty state associations will hold their annual meetings in January, in addition to numerous conferences and special courses scheduled for that month, as will be seen by a glance at the list of coming meetings published in this issue.

The first meeting attended by President Hall was in Philadelphia, in October, when he addressed the Pennsylvania State Veterinary Medical Association on "The Future of the Veterinary Profession." This address is published in full in this issue of the JOURNAL. On November 12, President Hall addressed the Medical Society of the District of Columbia, in Washington. The following week found him in Kansas City, attending the annual meeting of the Missouri Valley Veterinary Association and taking a prominent part in the program. The fourth week in November President Hall visited Boston, to attend a two-day meeting of the Massachusetts Veterinary Association. This meeting was a sort of New England affair and offered an op-

portunity for meeting not only the Bay State veterinarians but those of the other New England states.

For the first week in December Dr. Hall is scheduled to be in Chicago, where he will attend meetings of the United States Live Stock Sanitary Association, the National Association of B. A. I. Veterinarians and the Executive Board of the A. V. M. A.

January will be a very busy month for our President. First he will attend the meeting of the Ohio State Veterinary Medical Association, in Columbus, on the 8th and 9th. Plans for the week following are indefinite at this time. The third week will find President Hall in the South. He will attend the Southern States Veterinary Medical Association meeting at Birmingham, Ala., and possibly the Southwest Tuberculosis Conference and meeting of the Mississippi State Veterinary Medical Association at Jackson. Then he will jump up to Blacksburg, Virginia, to participate in the special course for veterinarians being offered by the Virginia Polytechnic Institute. The following week he will go to East Lansing, Michigan, to attend the postgraduate course offered by Michigan State College and incidentally help dedicate the new veterinary building at East Lansing. While at Michigan State College, on this occasion, President Hall will deliver the Sigma Xi address.

Plans are already being considered for attending summer meetings in a number of states in the Northwest, prior to the Kansas City convention. While on this subject, which might be termed "presidential activities," we might refer to a comment made by President Hall in his Philadelphia address, as follows:

for the next ten or twenty years the presidency should not be regarded as something like a medal of honor or a recognition of a veterinary group; it should be regarded as a job and the candidate selected as one who can and will bestow on the job the necessary time and energy to acquaint himself with all promising developments in the profession as a whole, to push these developments, and to crystallize sentiment for progress . . .

President Hall also believes in putting his words into action.

---

#### GRAIN SURPLUS AND HORSE POWER

According to estimates of the U. S. Department of Agriculture, as of January 1, 1930, there were 13,440,000 horses and 5,322,000 mules on farms in the United States, with an estimated additional 1,500,000 horses and mules in the cities, or a total horse and mule population of slightly over twenty million. This is a loss of over seven million in the past ten years.

The Horse Association of America estimates that the reduction in the number of horses and mules in the United States has diverted at least 18,000,000 acres of land formerly used for power purposes (rearing and maintaining work animals) to the production of surplus foodstuffs, and eliminating the normal increase in horses and mules through the substitution of automobiles, trucks and tractors, has reduced the acreage needed for power production and maintenance, from 107,162,500 to 52,905,000 acres.

In leaflet 199, the Horse Association goes on to say that this reduction has cost the farmer (a) the normal increase in the demand for horses and mules, (b) the normal increase in the demand for such farm products as hay and grain, and (c) the higher price he would otherwise be receiving for all other farm products.

Everybody agrees that folks nowadays would not give up their automobiles and return to driving horses. Nor will the use of trucks be materially curtailed. However, there are certain kinds of work that can be done as well and as cheaply by horses as by any form of automotive power. All short-haul, frequent-stop work in cities comes under this head. All farm field work—preparing the soil, cultivating and harvesting—can be done more cheaply and more efficiently with animal power than with gasoline. This is freely admitted by many farmers who have used both.

Veterinarians would do well to urge transportation users to study these facts—look them squarely in the face. The increased use of horses will naturally stimulate breeding. Increasing the number of horses will increase the consumption of hay and grain and thereby help to reduce the surplus of these crops. The farmer does not have to pay out cash for the hay and grain he feeds his horses, but he does pay out cash for practically everything connected with automotive power, both for the original purchase and for the up-keep—gas, oil, parts, service, etc. The use of horses on the farm contributes toward maintaining the fertility of the soil—a very important point that is frequently overlooked. If the products of the farm that would normally be fed to horses are sent to market, the farmer is obliged to spend more for fertilizer than would be the case if these products were consumed right on the farm. No form of automotive power contributes anything to the fertility of the soil, except in so far as it is used to transport purchased fertilizer to the farm.

At this point we will quote directly from leaflet 199:

There are champions of the motor age who argue that the millions of dollars spent, directly and indirectly, in the construction and transportation of automobiles, trucks and tractors give the farmer better markets by increasing the purchasing power of the wage-earner. We answer, "Not proved."

As a matter of fact, the consumption of food per person actually is less, because of the greater number of persons leading sedentary lives. And when a person has had all he wants to eat he is not interested in more food; nor do wage-earners who can buy silk and rayon seem interested in wearing cotton. Similarly, the general use of cars has reduced the wear on shoe leather.

Where, therefore, does the farmer get off? For these are the things he produces—food and clothing.

The argument is fallacious that the 4,341,000 persons engaged directly or indirectly in the production, sale, or servicing of motors mean more to farm markets than the 18,703,000 horses that have been displaced by such motors or prevented by them from coming into existence and use. For the 4,341,000 persons would be working at something even had motors never been invented, and they and their families would be buying just as much farm-produced food and clothing as they do now.

We have danced to the motor's tune; now we must pay the fiddler. Farmers, through destruction of an important market outlet, pay most of all.

Farmers should not be generally encouraged to raise horses for the market, but mainly for their own use on the farm. Of course there is always a market demand for horses of certain types, but at the present time this demand is not great enough to warrant farmers in breeding horses for the market on a large scale. They should be shown how to utilize horse power on the farm to the best advantage and then encouraged to raise sufficient horses for their own use. Veterinarians practicing in rural districts can assist materially in this direction.

---

### THE LOS ANGELES PAPERS

In answer to inquiries already received, and in anticipation of others, relative to the publication of some of the papers presented at the Los Angeles convention, the following information is given. Manuscripts of nine papers were retained by the authors for the purpose of making alterations and additions. Two papers were returned to the authors for the same purpose, at the request of the authors. Eight papers and addresses were presented extemporaneously or from notes, with no prepared manuscripts submitted for publication. Of the balance, consisting of thirty-three papers and addresses, eleven were published in the October and November issues of the JOURNAL, and eight are being published this month. The balance will follow as rapidly as possible.

### SOMETHING NEW

The issuance of membership certificates was discontinued by the A. V. M. A. with the new members admitted at the 1910 convention, in San Francisco. New members admitted in 1911 and since have not received membership certificates. At the time the Association abolished the custom of issuing certificates, the annual membership card was adopted. The cards received each year by our members are really receipts for the payment of annual dues, and it is intended that these cards be carried by our members at all times, the same as other membership cards. As a result, a member who has joined the A. V. M. A. since 1910 really does not have anything that he can display in his office to show that he is a member of his national organization. To fill that void an attractive sign (see illustration) has been prepared and purchased in quantity. These signs are now available to



New A. V. M. A. Membership Sign

our members at a cost of one dollar each. They are printed in three colors and may be used either as desk signs or hung on the wall.

It is suggested that members place their orders for these signs when remitting their 1931 dues. Notices for the payment of these dues will be placed in the mail at about the time this issue of the JOURNAL is mailed. Do not forget the price of the signs—one dollar each, postpaid. If you need more binders for your JOURNAL, or an A. V. M. A. emblem for that new car, place your orders when you remit your dues. By a ruling of the Executive Board, the Association reserves the right to recall a sign issued to a member, if he should sever his connection with the A. V. M. A.

Dr. Reuben Hilty, of Toledo, Ohio, former president of the A. V. M. A., purchased the first sign.

## CIRCULATION

Our readers may be interested in knowing something concerning circulation figures for the JOURNAL. The following figures are for the six-months periods, ending with the date given in each case and are *net*, according to sworn statement of the Business Manager:

June 30, 1927.....	4073
June 30, 1928.....	4328
June 30, 1929.....	4770
June 30, 1930.....	5141

---

## Short Course for Cuban Veterinarians

During the month of September, a short course for Cuban veterinarians was held in the Biological Laboratories of the Section of Animal Industry of the Department of Agriculture of the Cuban Republic. The closing exercises were very interesting and impressive.

Dr. Ignacio Resillez won the gold medal for the highest general average. This medal was donated by Captain A. R. Caceres, of the Cuban Army Veterinary Corps. Dr. Enrique V. Sotolongo won the gold medal given by Dr. Bernardo J. Crespo for the best essay on hog cholera.

---

## Rabies Quarantine Removed in Chicago

The quarantine on dogs in Chicago and Cook County was removed November 15, by order of Director Stuart E. Pierson, of the Illinois State Department of Agriculture. The quarantine had been in effect for about two years, in an effort to control rabies. Dr. W. H. Welch, Chief Veterinarian, Division of Animal Industry, urged the removal of the quarantine, in view of the improvement of the rabies situation in Chicago, as reported by Dr. Arnold H. Kegel, Commissioner of Public Health, who stated that there had not been a death from rabies, among persons, in Chicago, during the past year.

---

A committee of five usually consists of the man who does the work, three others to pat him on the back, and one to bring in a minority report.

—*Royal Arcanum Bulletin.*

## APPLICATIONS FOR MEMBERSHIP

(See July, 1930, JOURNAL)

### FIRST LISTING

COX, V. C., CAPT. CLAUDE FRANCIS

Army Vet. School, Army Med. Center, Washington, D. C.  
D. V. M., Chicago Veterinary College, 1913

Vouchers: Oness H. Dixon, Jr., and Burlin C. Bridges.

DIRSTINE, JEAN H.

B. S., D. V. M., State College of Washington, 1929  
Vouchers: J. L. Masson and W. L. Curtis.

HARKINS, CURTIS I.

44 Post Office Bldg., Birmingham, Ala.  
D. V. M., Alabama Polytechnic Institute, 1923

Vouchers: C. C. Middleton and C. A. Cary.

MOORE, THOMAS

522 Federal Bldg., Toronto, Ont.  
B. V. Sc., Ontario Veterinary College, 1929

Vouchers: J. A. Campbell and C. D. McGilvray.

NICHOLS, ABNER Z.

Hillsdale, Mich.  
D. V. S., Grand Rapids Veterinary College, 1901

Vouchers: E. C. W. Schubel and J. H. Lenfestey.

ROBSON, GAIL W.

Mount Victory, Ohio

D. V. M., Ohio State University, 1930

Vouchers: W. F. Guard and C. H. Case.

SCHROEDER, CHARLES ROBBINS

Pearl River, N. Y.

B. S., D. V. M., State College of Washington, 1929

Vouchers: Adolph Eichhorn and B. M. Lyon.

SEIFRIED, OSKAR

25 Edwards Place, Princeton, N. J.

V. M. D., University of Munich, 1921

Vouchers: J. R. Beach and F. S. Jones.

### Applications Pending

#### SECOND LISTING

Boxmeyer, Roy Edmund, 3614 Wyoming, Kansas City, Mo.

Cairy, Forest Ward, Stock Yards Station, Sioux City, Iowa.

Emmel, Mark Wirth, Ala. Poly. Inst., Auburn, Ala.

Hirscher, Henry L., 4351 Broadway, New York, N. Y.

Holycross, V. C., Capt. Forest Lee, Vet. Sta. Hospital, Fort Riley, Kans.

Johnson, Samuel Ray, 800 Woodswether Road, Kansas City, Mo.

Kerr, Algernon Hubbard, Dudley, Route 2, N. C.

Miner, V. C., Capt. John W., Fort Leavenworth, Kans.

Pedersen, Hans, 2600 Benton Blvd., Kansas City, Mo.

Richards, Earl Dean, 1013 S. River St., R. 2, Austin, Minn.

Shore, Charles Bruce, Oak Lane, Philadelphia, Pa.

Sullivan, Cornelius Francis, 74 Harbor View St., Dorchester, Mass.

Swanson, Leonard Erwin, Apt. 5, 13th Ave., Columbus, Ohio.

Williamson, Wallace LeRoy, 401 W. Winona St., Austin, Minn.

The amount which should accompany an application filed this month is \$5.42, which covers membership fee and dues to January 1, 1931, including subscription to the JOURNAL. It is suggested that applications filed this month be accompanied by remittance for \$10.42, the additional \$5.00 being for the 1931 dues.

And of all the animals that crawl away and sleep for the winter,  
the one we miss the most is the janitor.

—*Judge.*

## **COMING VETERINARY MEETINGS**

- Horse Association of America. Blackstone Hotel, Chicago, Ill. December 3, 1930. Mr. Wayne Dinsmore, Secretary, Union Stock Yards, Chicago, Ill.
- Southeast Georgia Veterinary Association. Elberta Hotel, Lyons, Ga. December 3, 1930. Dr. Hugh F. Arundel, Secretary, Box 68, Quitman, Ga.
- New York City, Veterinary Medical Association of. Academy of Medicine, 5th Ave. and 103rd St., New York, N. Y. December 3, 1930. Dr. John E. Crawford, Secretary, 708 Beach 19th St., Far Rockaway, Long Island, N. Y.
- San Diego-Imperial Veterinary Medical Association. San Diego, Calif. December 3, 1930. Dr. A. P. Immenschuh, Secretary, Santee, Calif.
- U. S. Live Stock Sanitary Association. LaSalle Hotel, Chicago, Ill. December 3-5, 1930. Dr. O. E. Dyson, Secretary, 45 Live Stock Exchange Bldg., Wichita, Kans.
- Kansas City Association of Veterinarians. Baltimore Hotel, Kansas City, Mo. December 9, 1930. Dr. H. J. Hearrington, Secretary, 1130 Franklin Ave., Lexington, Mo.
- Chicago Veterinary Medical Association. Atlantic Hotel, Chicago, Ill. December 9, 1930. Dr. J. B. Jaffray, Secretary, 2956 Washington Blvd., Chicago, Ill.
- Nebraska State Veterinary Medical Association. Lincoln Hotel, Lincoln, Nebr. December 9-10, 1930. Dr. Bernard Witt, Secretary, Scribner, Nebr.
- Southeastern Michigan Veterinary Medical Association. Detroit, Mich. December 10, 1930. Dr. H. Preston Hoskins, Secretary, 537 Book Bldg., Detroit, Mich.
- Western New York Veterinary Medical Association. Buffalo, N. Y. December 11, 1930. Dr. F. F. Fehr, Secretary, 243 S. Elmwood Ave., Buffalo, N. Y.
- Southern California Veterinary Medical Association. Chamber of Commerce Bldg., Los Angeles, Calif. December 17, 1930. Dr. W. L. Curtis, Secretary, 1264 W. 2nd St., Los Angeles, Calif.
- American Association for the Advancement of Science. Cleveland, Ohio. December 29, 1930-January 3, 1931. Dr. Burton E. Livingston, Secretary, Smithsonian Institution Bldg., Washington D. C.

California State Veterinary Medical Association and University of California Veterinary Conference. University Farm, Davis, Calif. January 6-9, 1931. Dr. W. L. Curtis, Secretary, 1264 W. 2nd St., Los Angeles, Calif.

University of Pennsylvania, Conference of Veterinarians at School of Veterinary Medicine, University of Pennsylvania, Philadelphia, Pa. January 7-8, 1931. Dr. H. E. Bemis, Dean, 39th St. & Woodland Ave., Philadelphia, Pa.

Ohio State Veterinary Medical Association. Neil House Hotel, Columbus, Ohio. January 7-8, 1931. Dr. R. E. Rebrassier, Secretary, Ohio State University, Columbus, Ohio.

South Dakota Veterinary Medical Association. Hotel Cataract, Sioux Falls, S. Dak. January 7-8, 1931. Dr. Geo. E. Melody, Secretary, Hoven, S. Dak.

Texas, State Veterinary Medical Association of. Kemp Hotel, Wichita Falls, Texas. January 12-13, 1931. Dr. D. Pearce, Secretary, Box 335, Leonard, Texas.

Intermountain Livestock Sanitary Association. Hotel Bigelow, Ogden, Utah. January 12-14, 1931. Dr. Cecil Elder, Secretary, University of Wyoming, Laramie, Wyo.

New York State Veterinary College, Cornell University, Poultry Disease School. Ithaca, N. Y. January 13-14, 1931.

Wisconsin Veterinary Medical Association. Park Hotel, Madison, Wis. January 13-15, 1931. Dr. B. A. Beach, Secretary, University of Wisconsin, Madison, Wis.

Iowa Veterinary Medical Association. Fort Des Moines Hotel, Des Moines, Iowa. January 13-16, 1931. Dr. C. J. Scott, Secretary, Knoxville, Iowa.

Maine Veterinary Medical Association. Bangor, Me. January 14, 1931. Dr. L. E. Maddocks, Secretary, R. F. D. 2, Augusta, Me.

Maryland State Veterinary Medical Association. Medical Hall, 1211 Cathedral St., Baltimore, Md. January 15, 1931. Dr. E. M. Piekins, Secretary, College Park, Md.

Minnesota State Veterinary Medical Association. Lowry Hotel, Saint Paul, Minn. January 15-16, 1931. Dr. C. P. Fitch, Secretary, University Farm, Saint Paul, Minn.

Cornell University, Annual Conference for Veterinarians at Cornell University, Ithaca, N. Y. January 15-16, 1931. Dr. P. A. Fish, Dean, New York State Veterinary College, Ithaca, N. Y.

Oklahoma State Veterinary Medical Association. Skirvin Hotel, Oklahoma City, Okla. January 19-20, 1931. Dr. C. H. Fauks, Secretary, 1919 W. Ash St., Oklahoma City, Okla.

Southern States Veterinary Medical Association. Hotel Tutwiler, Birmingham, Ala. January 19-20, 1931. Dr. M. R. Blackstock, Secretary, 157 Hampton Ave., Spartanburg, S. C.

Virginia Polytechnic Institute, Conference for Graduate Veterinarians at. Virginia Polytechnic Institute, Blacksburg, Va. January 19-24, 1931. Dr. I. D. Wilson, Dept. Zool. & An. Path., Virginia Polytechnic Institute, Blacksburg, Va.

Indiana Veterinary Medical Association. Severin Hotel, Indianapolis, Ind. January 20-22, 1931. Dr. R. H. Boyd, Secretary, 1422 N. Capitol Ave., Indianapolis, Ind.

Missouri Veterinary Medical Association and University of Missouri Special Course for Graduate Veterinarians. University of Missouri, Columbia, Mo. January 20-23, 1931. Dr. J. D. Ray, Secretary, 400 New Centre Bldg., Kansas City, Mo.

Nevada State Veterinary Association. Reno, Nevada. January 21, 1931. Dr. Edward Records, Secretary, University of Nevada, Reno, Nevada.

Kansas Veterinary Medical Association. Topeka, Kans. January 21-22, 1931. Dr. Chas. W. Bower, Secretary, 1128 Kansas Ave., Topeka, Kans.

Mississippi Veterinary Medical Association. Jackson, Miss. January 21-22, 1931. Dr. R. H. Stewart, Secretary, Indianola, Miss.

Southwestern Tuberculosis Conference. Jackson, Miss. January 21-22, 1931. Dr. H. L. Fry, Secretary, 3-4 War Memorial Bldg., Nashville, Tenn.

New Jersey, Veterinary Medical Association of. College of Agriculture, New Brunswick, N. J. January 21-22, 1931. Dr. E. R. Cushing, Secretary, 947 Prospect Ave., Plainfield, N. J.

Michigan State College Short Course for Veterinarians. Michigan State College, East Lansing, Mich. January 26-30, 1931. Dr. Ward Giltner, Dean, Division of Veterinary Science, Michigan State College, East Lansing, Mich.

---

#### STATE BOARD EXAMINATION

Illinois State Board of Veterinary Examiners. Department of Registration and Education, 130 N. Wells St., Chicago, Ill. December 8-9, 1930. Dr. L. A. Merillat, President, 569 W. Van Buren St., Chicago, Ill.

## SANITARY SCIENCE, THE BASIS FOR ABORTION CONTROL\*

By WALTER WISNICKY and V. S. LARSON

*Wisconsin Department of Agriculture and Markets,  
Madison, Wisconsin*

The control of Bang's disease in cattle presents problems different from those of most other infectious or contagious diseases and yet its control depends upon the principles of sanitation that have been used in eradicating other dangerous live stock diseases, though applied in a slightly different manner. For many years our scientists have devoted much effort in an attempt to find some means of medication or immunization with biologics that would prove effective in handling this disease, but all have now arrived at the conclusion that, as far as present knowledge goes, Bang's disease cannot be controlled by any such means. Further research has proven, however, that the disease can be effectively controlled through proper sanitation.

At the present time there are a number of states that have adopted some regulatory measure for the suppression of Bang's disease but unfortunately the various plans of control lack in uniformity, which may in time result in confusion and misunderstanding between the different states.

In developing a plan for the control of this disease in the state of Wisconsin, we have kept in mind the welfare of two major interests that are inseparable: first, the live stock industry, and second, the veterinary profession. In reviewing the various plans adopted by different states we have been impressed by the lack of consideration given the practicing veterinarian in carrying out the control measures, especially that part dealing with one of the more important phases of control work—the diagnosis.

In the control of most other diseases it has been possible to use men in the employ of the state or federal government, where the frequent services of a veterinarian are not needed, and with excellent results, but in controlling Bang's disease the work has just begun when the test has been completed. The next task is that of working out a practical plan of sanitation that will meet the needs of each individual cattle-owner. Our experience has

\*Presented at the sixty-seventh annual meeting of the American Veterinary Medical Association, Los Angeles, Calif., August 26-29, 1930.

been that the practicing veterinarian, in charge of a herd working under this plan, is consulted by its owner at frequent intervals regarding details of carrying out the plan of sanitation, and in order to give intelligent counsel it is necessary that we have detailed information regarding the condition of the herd, which can be acquired only by his assuming full responsibility for all work incidental to the project. We find that unless a herd-owner has a very convenient, as well as expedient, means of having tests made, he is more inclined to make additions to his herd without a test or a retest at the proper time.

In the state of Wisconsin we sell from 75,000 to 100,000 head of dairy and breeding cattle for export to other states each year, and we find that a majority of these cattle are required to be tested for Bang's disease before shipment. With the plan we have adopted, it is possible for a cattle-buyer to have a practicing veterinarian draw blood samples from his prospective purchases, make a reliable test, and furnish him with the information he desires within a few hours.

Out-of-state buyers purchasing cattle negative to Bang's disease are given full assurance as to the reliability of the testing reports. Only work conducted by approved veterinarians is officially recognized. All tested cattle are identified by ear-tag or registration number and the records of tests made are filed in the live stock sanitation office. Animals going out of the State are not only tested by veterinarians approved by the Department of Agriculture and Markets, but the report is checked against our office records and at times duplicate samples are required to be sent to the disease control laboratory.

With this plan all the responsibility for the work rests with the practicing veterinarian and in the event of errors he would be held responsible.

In determining who may do official work in Bang's disease control, we use a modification of the method employed by the federal government in accrediting veterinarians to do official tuberculin-testing, except that in this work it becomes necessary to give each candidate personal instruction in the technic of blood-letting, properly handling blood samples and making the agglutination test. In Wisconsin we use the rapid method (according to Huddleson) almost exclusively, and we find our veterinarians very readily learn the technic of this test as well as that of the tube or slow-method agglutination test. After a veterinarian has received his instructions in doing this work,

in order to be certain he is doing good, reliable testing, we require him to submit to our disease control laboratory, at frequent intervals, samples of blood serum, together with his test report, and we then make a check test. In the event the results of our test do not correspond with the veterinarian's report, he is required to spend additional time in the laboratory, or a field veterinarian from the Department will work with him in his own territory as long as may be necessary.

We also include in this work instructions in the collection and microscopical examination of samples of semen from herd sires to determine their fertility. With this method of handling the technical part of our Bang's disease control work, we find we are having very good work done.

In formulating regulations governing this work, we have attempted to avoid all measures that would impose hardships on the cattle-owner, out of keeping with what would be accomplished by their adoption, and in order to meet the requirements of a majority of cattle-owners it has been necessary to present to them a number of different plans that we have found, by actual experience, to be practical. The cattle-owners are made to understand that their success in controlling Bang's disease will depend upon their willingness and ability to carry out a plan of sanitation that may be outlined by their veterinarian. Following is a brief outline of the plans of sanitation recommended by the Wisconsin Department of Agriculture and Markets, as a guide to be followed by veterinarians and cattle-owners.

#### BANG ABORTION CERTIFIED HERDS

A Bang Abortion Certified Herd is one that has passed three negative agglutination blood-tests at six-month intervals, including all cattle in the herd over six months of age. A certificate of inspection attesting to the fact that such herd has passed three negative tests at six-month intervals will be issued when the following requirements are complied with:

- (a) When a record of each test is filed, on the proper form, by an approved veterinarian, in the office of the Director of Live Stock Sanitation, at the time that the test was made.
- (b) The owner must sign an agreement in which he consents to cooperate fully and observe such regulations as are provided for by the Department of Agriculture and Markets.

(c) The owner must agree to follow such sanitary program and procedure as is outlined to him by the approved veterinarian doing his abortion control work.

(d) The owner of a certified herd may introduce cattle into his herd from another certified herd, or cattle that have passed a negative blood-test within thirty days prior to the time of introduction, and after being brought on the premises such cattle must be kept separate and apart from the negative herd for a period of thirty days and again retested, and this test must be negative in order that they may be introduced into his free herd. Although not required by regulation, it is highly desirable to refrain from introducing bred animals into the negative herd. If this must be done, it is safest, in addition to testing them within thirty days prior to bringing them onto the premises, to keep them away from the negative unit until after calving and passing a negative test, fifteen days or more from date of delivering calf.

(e) The certificate issued is good for one year. It will be renewed if the entire herd, including animals over six months of age, are again tested by an approved veterinarian and all the animals found to be negative. This retest must be performed and records filed before or at the expiration of twelve months from the date of issuing the certificate. When deemed necessary, more frequent retesting may be required.

#### HANDLING OF INFECTED HERDS WITH OBJECT OF ERADICATING THE DISEASE

Regardless of the amount of infection found, as determined by the blood test and history, the plan of procedure should be such that ultimately the herd will be freed from the infection.

The circumstances of the owner and the amount of infection found in the herd should determine the procedure to be followed.

Valuable animals, positive to the test, should not be sacrificed by sending them for slaughter. Inferior animals and animals not producing sufficiently to be regarded as profitable should be slaughtered. Three general plans are hereby suggested where positive animals are found in a herd.

##### Plan A

###### THE TWO-UNIT-HERD PLAN

Divide the herd on the basis of the blood-test into negative and positive units. Where the accommodations on the farm are such that separate quarters can be furnished for the negative and positive portions of the herd, this is the most satisfactory

way of handling the problem. Provide separate quarters for the negative and the positive portions of the herd. No direct contact between the animals in these two units is to be had at any time. They are to be stabled, yarded and pastured separately. If yards or pastures are adjacent, a woven-wire fence should separate the two units. Separate equipment, such as forks and brooms, used in the care of these animals, should be provided. The negative unit should be tested at approximately three-month intervals in order to determine the progress of the work and discover new reactors.

It should be planned that the calves from both the negative and the positive units should be used to fill the ranks of the negative herd. Calves from positive cows may be raised on the milk of the positive cows to the age of sexual maturity, provided they are kept separate from the negative cows and calves. Calves from the negative unit may be allowed to associate with the calves from the positive herd after the positive calves have been kept in neutral pens for a period of a week and not allowed the milk from positive cattle. Calves should not be allowed to remain with the positive unit after they become sexually mature.

After all the positive animals are disposed of and a negative test is obtained on all animals over six months of age, it may be counted as the first test toward certification. Two additional negative tests at six-month intervals will qualify the herd for receiving a certificate testifying that the herd has passed three negative abortion tests.

#### HOW TO MANAGE THE NON-REACTING HERD OR NON-REACTING UNIT

1. Feed a ration adequate to maintain the physical condition of the cattle.
2. Keep the stable and premises in a sanitary condition.
3. Record all service and calving dates for future reference.
4. Isolate immediately for observation and re-testing all animals that abort, or threaten to abort.
5. Clean and disinfect the stall and gutter of each cow that aborts and burn the fetus, if dead, placenta and contaminated litter.
6. Provide a disinfected maternity stall for exclusive occupancy by cows at calving time. (Advisable but not mandatory.)
7. Restrict the service of herd bulls to cows which are negative

to the blood-test. Cows or heifers should be bred only when genital organs are in a healthy condition.

8. Retest all animals over six months of age every three months, until all have been negative for at least two tests. Subsequent retests of the whole herd should be made at six-month intervals, until the herd qualifies for certification.

### Plan B

#### PARTIAL SEPARATION OF NEGATIVE AND POSITIVE UNITS

Where the conditions are such that the owner cannot provide separate quarters and pastures for the negative and positive units, then the next best procedure to follow is to keep the negative and positive portions of the herd on different sides of the barn. It may be possible in some instances to place the negative unit in one end of the barn and the positive unit in the other end, with a temporary partition between. If the animals are yarded, a fence should be built to separate the yard, and the negative and positive animals should have no physical contact. A woven-wire fence will be satisfactory for this purpose. Do not permit the negative cattle to have access to the manure-pile. It is advisable to provide separate watering-troughs and pastures for the negative and positive units.

Separate equipment should be used in the care of the negative and positive herds. Calving-stalls must be provided. It is advisable to have one, or a set of calving-stalls, for the negative unit and also separate calving-stalls for the positive unit. When a shortage of calving-stalls occurs, preference shall be given to the positive animals.

An animal which has aborted should be kept isolated until such time as there is no evidence of any vaginal discharge. Usually this length of time will be between thirty and sixty days. The aborted fetus and the litter in the stall shall be burned or buried deeply. Before an aborting animal is removed from the calving-stall, it should be cleaned and the rear parts sponged with a disinfectant. The stall should be thoroughly cleaned and properly disinfected.

The negative unit should be tested every three months in order to determine the progress of the work. If positive animals are disclosed on the negative side, they should be transferred to the positive section. If positive animals are tested and give a negative reaction, they should be kept away from the negative side until another negative test is obtained at least thirty days

after the first negative test. No sweepings from the positive portion should be placed so that the negative cattle will have access to them. The gutter drainage from the positive side shall be so handled that the negative animals do not come in contact with it. Use dehydrated lime liberally on the stable floor. Suitable means for disinfecting the shoes of attendants should be provided.

### Plan C.

Calves may be raised from both the negative and the positive units and handled in about the same way as suggested in plan A. Do not permit calves over six months of age or young stock to associate with the positive unit. The animals in the positive unit should be disposed of as it is found feasible and practical. Good stable sanitation is essential. Strict watch must be kept on calving or aborting animals. Handle these in accordance with suggestions in plan A. Gratifying results can be obtained under this plan, but the results depend to a large extent upon the vigilance and practices of the herdsman.

Plan C is proposed for such farmers as find it impossible to isolate their animals in separate quarters, or to isolate them on separate sides or sections of the barn. Under this plan the herd should be blood-tested by an approved veterinarian, at three- or six-month intervals, in order to determine the progress of the infection. A sufficient number of calving-stalls shall be provided so as to have all cows, if possible, calve in specially provided stalls. In many instances with comparatively small cost in labor and material, provision can be made for calving-quarters in sheds or outer buildings. In some cases a small portable building can be built for a calving-pen. Negative animals may be returned to their regular stalls after they have cleaned up entirely. Positive animals shall be kept separate and apart in the calving-stalls for a period of at least thirty days, and such longer time as may be necessary.

Careful watch shall be kept for any symptoms of abortion, and if an animal is observed showing such symptoms she shall be placed in the special calving-stall immediately. In all instances where abortions occur, both the fetus and the litter from the calving-stalls shall be disposed by burning or burying. The stall is to be disinfected thoroughly after each animal is taken out. The owner shall take diligent care when working around an animal that has aborted, or a positive animal that has calved. He should disinfect his shoes after taking care of such animals.

If possible, keep calves and heifers away from the main herd. Dispose of unprofitable and inferior animals at the earliest opportunity. Keep complete records of breeding and calving dates. Breed all animals on neutral ground. Do not breed positive animals until sixty days after calving or aborting.

#### COMMUNITY BULLS

Although the bull is not considered at present as an important spreader of the disease, a negative herd is considered to be too precious an asset to be jeopardized by even a slight possibility of introducing the infection. The community-bull practice is not favorably countenanced by those interested in disease control despite the economic advantages such practice may entail. If it is absolutely necessary to use a community bull, such animal must be negative to the blood-test and with a good breeding history. A community bull used to breed negative cows shall never be used on positive cows. The breeding shall be done on neutral ground.

#### COMMUNITY PASTURES

Community pastures have in many instances been responsible for spreading the disease from one herd to another. From the disease standpoint, the practice is a bad one. If a community pasture must be used, see that it contains only unbred heifers. Never allow young bulls and bred heifers in a community pasture.

#### LINE FENCES

Where neighbors have cattle in adjacent pastures, it is possible for an infected herd to spread the infection to a negative herd if proper fencing is not provided. A woven-wire fence separating negative and positive herds has proven effective in preventing the spread of the disease.

#### BIOLOGIC AGENTS IN ABORTION DISEASE CONTROL

Abortion bacterins, live-culture abortion vaccines and any mixed bacterins, or vaccines containing the dead or live abortion germ, shall not be used on any cattle within the State by any person unless a special permit is received from the Department of Agriculture and Markets. Permits for the use of any of these products will be granted to veterinarians approved for abortion control work when, in the opinion of the Department of Agriculture and Markets, there is justification for their use. A special permit must be obtained by the veterinarian in each instance before the product can be used.

### APPROVED VETERINARIANS

Only graduate, licensed veterinarians can become candidates for receiving approval for doing abortion control work. Approval for abortion control work may be granted after the veterinarian has taken special instruction at the Department of Veterinary Science at the University of Wisconsin, or has been given special instruction by veterinarians connected with the Department of Agriculture and Markets.

All veterinarians approved to do abortion control work must agree to comply with all rules and regulations which the Department of Agriculture and Markets has in effect, or such regulations as it may, in the future, deem necessary to make.

### PERMIT MAY BE REVOKED

The Department of Agriculture and Markets may revoke the permit of any approved veterinarian at its discretion. It may, if it so chooses, provide for a hearing and the veterinarian will be given an opportunity to present his side of the case at such hearing. A decision will be made regarding the revoking of the permit after the hearing and the veterinarian notified of the decision.

### CHECK TESTS

The Department of Agriculture and Markets will, at such times as it deems feasible, require approved veterinarians to send in duplicate samples of such tests as they are making for check-up purposes. These samples must be sent in good condition and a complete record of the test on each sample, with proper identification, must be submitted with the samples. The check-testing of samples by the Department of Agriculture and Markets will be done without charge.

### IDENTIFICATION OF CATTLE

All cattle tested for abortion must be identified by ear-tag or registration name and number. The present tags used for identification of animals in tuberculosis eradication work shall be regarded as identification for any purpose and therefore shall be used for identifying cattle in testing for abortion.

### REPORTS

Complete reports of all tests made by approved veterinarians must be sent to the office of the Director of Live Stock Sanitation at the time that the test is made. All animals tested for abortion

for interstate shipment must be reported. A separate report sheet may be issued on positive rejected animals. When three negative tests on herds being candidates for certification are completed, the veterinarian shall make application for a certificate covering that herd, giving such information as is required to obtain the certificate on abortion form 2.

#### TESTING FOR ABORTION

The approved veterinarian must collect the samples of blood and may test them himself, or he may submit them for testing to some other approved agency. The entire responsibility of the work rests on the approved veterinarian collecting the samples. No test will be given official recognition unless blood samples have been drawn and tested by an approved veterinarian or some other approved agency. No antigens other than those approved by the Commissioners of Agriculture and Markets shall be used in official testing for contagious abortion.

In the state of Wisconsin we have approximately 8000 herds of cattle being handled in accordance with some of the foregoing plans and we will here give brief testing records of a few herds that are fairly indicative of the results being obtained.

TABLE I—*Herd 1 (Plan B)*

TEST	TIME	CATTLE TESTED	REACTORS
1st	November	36	17
2nd	January	23	3
3rd	March	21	1
4th	May	20	1
5th	July	20	0

*Herd 1:* Plan B was followed where positive and negative cattle were kept in the same stable with the same attendants. Separate yards and pastures were provided. One herd sire was used on both lots, though positive cattle were not bred until they had been fresh at least sixty days. The reactor disclosed at the May test (table I) was an unbred heifer, sexually mature, being fed milk from both positive and negative cattle.

TABLE II—*Herd 2 (Plan B)*

TEST	TIME	CATTLE TESTED	REACTORS
1st	January	91	30
2nd	March	68	4
3rd	May	51	0
4th	July	67	3

*Herd 2:* The three reactors disclosed at the July test (table II) were heifers and dry cows being pastured adjacent to an infected herd where contact between the two lots was constant, due to a poor line fence. All cattle maintained in the regular herd remained negative.

TABLE III—*Herd 3 (Plan B)*

TEST	TIME	CATTLE TESTED	REACTORS
1st	May	40	10
2nd	September	32	1
3rd	January	30	0
4th	May	38	0

*Herd 4:* Plan C was followed, and 225 cattle were tested at the first test, in 1926, and 83 reacted. In this herd it was decided to maintain all cattle, both positive and negative, as a single unit and build a new herd from the offspring. All calves were permitted to remain with their dams from five to seven days following birth and were then removed to separate quarters and given milk from a negative herd. In 1929 a young herd of 126 head had been raised with no reactions to the agglutination test. At the present time this herd consists of 200 head, and in addition to this, thirty head have been disposed of during the past year. Of the foundation herd but fifty-five head now remain, the balance having been disposed of, due to advanced age, udder trouble, sterility or low production.

We find that one of our problems, after assisting veterinarians in becoming qualified to do official work in controlling Bang's disease, is to get the proper information to the cattle-owners in a way that will interest them in adopting some plan of control, and for this purpose we decided to solicit the cooperation of the agricultural extension service of the College of Agriculture, University of Wisconsin. In nearly every county of Wisconsin they have an agricultural extension representative whose duty it is to bring to the people of the county the latest approved scientific knowledge pertaining to agriculture, including the handling of live stock. These men call a preliminary meeting, to which are invited all veterinarians of the county, the agricultural committee of the county board, leaders of the different breed associations, and a representative of the Division of Live Stock Sanitation, and the entire program of abortion disease control is outlined for their approval, including the cost to the cattle-owners

of doing the work as agreed upon by the practicing veterinarians of the county.

Following this meeting, the agricultural extension representative arranges for a series of meetings throughout the county, to which all cattle-owners and others interested are invited, and a veterinarian from the Department of Agriculture and Markets explains the nature of Bang's disease and outlines the different plans of control. The practicing veterinarians are invited to participate in the discussion that follows, and in this way they experience no difficulty in interesting their clients in this project.

In about six months from the time the work is started, a second series of meetings is arranged, when the work is again discussed, and farms, where some plan of sanitation has been adopted, are visited with a view of determining the progress made or of detecting weak places in the plan of sanitation being followed.

In the formulation of the abortion control program, considerable thought was given to the matter of disposal of reactors. Many factors had to be taken into consideration. Meetings on abortion control, as already referred to, are held at various intervals in the different counties within the State. Education on abortion control is being disseminated by and through the practicing veterinarians, the agricultural extension agents, and other sources. The farmers of the State, in the main, are becoming familiar with Bang's disease and most of them are sufficiently conversant with the disease that it would be difficult for anyone to sell them a dairy cow without the animal being blood-tested first. It is contemplated to continue this Bang's disease education program. Education may obviate the necessity of regulating the sale of reactors through regulation.

The fact that a cow is known to be positive to the test for Bang's disease does not necessarily lessen her value, as ordinarily she has a greater value in a positive herd, due to the tolerance she has to the infection and in the event she is disposed of for slaughter, her value is in no way impaired.

As soon as animals infected with Bang's disease are compelled to be handled in a definite manner or forced to be slaughtered, the owner is placed at a disadvantage and consequently feels that he is entitled to remuneration. Indemnity paid on cattle condemned as a result of reacting to the tuberculin test laid the basis for this belief. Abortion disease does not lend itself readily to the payment of indemnity and therefore we have been careful

not to use compulsive measures, in order that herd-owners would not raise the question of indemnity too prominently.

The apparent economic loss produced by the disease is sufficient to compel the interest of the herd-owner, and the demand for assistance in abortion control is growing so rapidly that at some times it appears ahead of our ability to supply all requests for meetings and assistance.

Our educational program advises the cattle-owners to retain the good positive animals in some satisfactory form of isolation, until such time as his negative unit is recruited to full size, and then dispose of the positive animals, either for slaughter, or to go into other positive units. The Department of Agriculture and Markets is watching closely the movement of cattle positive to the abortion test in order to observe the practical application of the idea that education and understanding of the Bang's disease problem by the large mass of farmers will in itself direct the positive cattle into the proper channels. The trend at present appears to be in the right direction, and if it continues so, the problem of the disposition of positive animals will solve itself. If the course goes otherwise, then it will be necessary to develop some practical means of handling positive animals by definite regulation.

The rapid agglutination test, when properly applied by competent veterinarians employing the use of a good antigen, is deemed both efficient and practical under Wisconsin conditions.

Only antigens approved by the Division of Live Stock Sanitation of the State are used in connection with our abortion control work. In instances where there is some question regarding the reliability of some approved antigens, an accurate laboratory observation of the antigen is made and its future use is prohibited if it does not measure up to the expected standard. The antigen is judged by its agglutinating ability and by the way it lends itself to the interpretation of results when it is tested against sera varying in agglutination titre, ranging from a weak to a strong agglutination. It was interesting to observe the trend of purchase of antigen in Wisconsin. The veterinarians are showing their earnest desire to secure the very best product which the market offers, regardless of cost.

All forces within Wisconsin are in complete accord with the state abortion control program with the exception of a portion of the agricultural press. Recently one of the agricultural journals in Wisconsin boldly stated in an editorial that a proprietary remedy cures contagious abortion. The remedy referred to

contains the following ingredients, according to an analysis made by the federal government, on a sample collected July 8, 1929.

"Square carton containing two pounds brown coarsely granular material labeled 'Bowman's.'

"Non volatile, at 100° C.....	83.62%
"Ash.....	Nil
"Invert sugar direct.....	5.63%
"Sucrose by copper.....	85.44%
"Wood creosote.....	.75%
"Alkaloids.....	None
"Bran.....	None

"Product consists of a brown soft granular material containing chiefly brown sugar and crude wood creosote."

An analysis made by the Department of Agriculture and Markets during August of this year is essentially the same as the federal analysis, indicating that the formula is practically unchanged. The following is a statement in the editorial:

I know quite well that the veterinary profession, as well as the veterinary department of the Wisconsin Agricultural College and veterinarians of all other agricultural colleges, claim that there is no remedy for abortion, but they are mistaken.

It is the policy of most agricultural journals to base their reading material on reliable research work. In this instance a definite stand is taken against the veterinary profession and the large volume of substantial research work with Bang's disease in cattle. The paper, in this instance, not only repudiates a desirable policy, but goes into collusion with the nostrum interests to foist upon the live stock industry of the state and nation, a worthless product to extract vast sums of money for nothing more than giving the purchasers a false sense of security.

With out present organization and program, and the keen interest and cooperation of the herd-owners and veterinarians, it is anticipated that definite progress will be made in the control of this disease within our state.

#### DISCUSSION

DR. A. M. McCAPES: What are the veterinarians charging for testing?

DR. LARSON: That was discussed at the meeting of the Wisconsin State Veterinary Association and they agreed that where a single herd was tested it would be about fifty cents a head for each animal tested; where you have a group of cattle, consisting of about fifty head of cattle, fifty cents a head was charged; where they were grouped up to 100 head in each lot, within a small territory, they were tested at forty cents a head. That included taking the blood samples, the testing, the filing of the reports and giving the cattle-owner proper information regarding sanitation.

DR. McCAPES: How much training are the veterinarians given at the College?

DR. LARSON: Usually about two days' training and then a representative of our Department will spend some time with them in the field, until we are satisfied that they understand the work thoroughly. Following this they are required to submit samples of blood to our office with the test record, in order

that we may check their work, and as soon as we are convinced that the work they are doing is satisfactory, they are classed as "approved," to do official blood-testing.

DR. McCAPES: Have the results from the testing that the veterinarians have been doing been uniformly good?

DR. LARSON: I would say yes, but not exactly one hundred per cent. We have had a few veterinarians who have been rather slow to develop the proper technic, but I will say that our results have been more uniformly good than they were at the beginning of the tuberculin-testing campaign when practicing veterinarians were making tests.

DR. IVERSON: I know the time is short, but I wish to commend Dr. Larson for the comprehensive and instructive manner in which he has discussed his subject. His paper is a valuable contribution to sanitary science and to our literature.

In a general way we in California are now preparing to carry out a method of control of Bang's disease in dairy herds along the lines laid down in Wisconsin, with the exception that we plan to have the agglutination test conducted at the laboratory of the Division of Animal Industry in the Department of Agriculture, at Sacramento.

We are glad that Wisconsin has undertaken to hold sectional meetings with groups of veterinarians to discuss this mode of procedure. We think that is highly desirable and very necessary, and we are proceeding along that line in California.

DR. McCAPES: What is the source of the antigen used by the veterinarians?

DR. LARSON: We have been using commercial antigens largely, that have been tested by the University of Wisconsin laboratories, and when we find they give results, we approve them for official work in the State.

DR. W. T. SPENCER: I noticed in your plan of dividing the negative and positive cattle, that after one or two negative tests you are transferring those previously positive cattle back into your negative herds. Do you consider that quite safe?

DR. LARSON: No, we don't. The fact of the matter is that it is very seldom practiced, but in the beginning of the work we found that due to the fact that antigens were not standardized, occasionally we had a cow that might be classed as slightly suspicious when tested with one antigen and she might be classed as negative when tested with another antigen. We made that provision for that particular case, but now we find the antigens are largely giving the same results and we don't have that occur.

I believe that in time, and within a very short time, our state will take the same stand regarding reactions to the abortion test that the Bureau takes regarding reactions to the tuberculin test. Once they react to the test, they should always be considered as positive. We find a very low percentage of positive cattle that ever turn negative, perhaps one to three per cent, and I refer to cattle that react in dilutions up to about 1:400. Of those that do, it is our experience that at least a portion of them will turn positive even though not exposed to infection.

I think we are going to arrive at the same decision on reactions to this test as we did for the tuberculin test.

DR. C. E. COTTON: Do you have any special identification tags for reacting animals?

DR. LARSON: No, we use the same tags that are used for identifying cattle in tuberculin-testing, and the only means we have of identifying them is the test-record that is filed with our office. They are not branded.

DR. COTTON: No quarantine is established?

DR. LARSON: Yes, they are quarantined. They are not permitted to be sold unless the owner or the purchaser is advised of the fact that those cattle are reactors to the abortion test.

DR. COTTON: Do you require the owner to sign an agreement, prior to the time the service is extended to him, that he will comply with these requirements?

DR. LARSON: Yes.

DR. COTTON: What has been your experience with cattle that reacted and later became negative and which you permitted to be returned to clean herds.

DR. LARSON: As a rule those animals have been those that have given only partial reactions when they were considered as positive, and we find that ordinarily speaking, a cow giving only a very slight agglutination reaction and later is negative to two tests, will probably remain so.

DR. COTTON: In your original test you mark some as positive and some as suspicious?

DR. LARSON: Yes.

DR. COTTON: What do you do with the animals considered suspicious on the first test?

DR. LARSON: They are kept either on neutral ground or with the positive animals.

DR. COTTON: In Minnesota, we require the owner to employ a veterinarian to draw blood samples and send them to our laboratory with proper identification, with a special identification tag like we use in tuberculosis control work, or, if a pure-bred animal, by the registry name and number.

We find in herds, where there is quite a percentage of infection, the laboratory will report a number as giving suspicious reactions, in practically every instance. It is our policy to allow the suspicious reactors to be placed with the negative group, and retest them in thirty days. Ninety-five per cent are negative on the retest and remain in the negative group.

I was pleased to have Dr. Larson state that in his opinion the time will come when we will be compelled to class the animal that gives a positive reaction always as a reacting animal from the standpoint of control. At this time we have not had sufficient experience to make any definite deductions relative to this question.

I can recall one instance in particular, in which the first accredited herd in Minnesota (we have somewhat the same plan as Wisconsin), one that had been accredited for over two years, on retest of the herd, had a break disclosing six reactors. On investigation, we found the owner had slipped one over on us. He was maintaining a herd of positive reactors on another farm and in this herd there was a valuable cow that had given birth to eleven calves in thirteen years. They had sent the blood of this animal to our laboratory with the samples of blood of all the cattle in the accredited herd and had used a different number to identify her. The test was negative and the owner placed her in the accredited herd. On the complete retest of the accredited herd, six months later, this cow and five others gave positive reactions.

---

### Honoring Doctor Crespo

Dr. Bernardo J. Crespo, editor of *Agricultura y Zootecnia*, and veterinarian to the Department of Agriculture of Cuba, was the guest of honor at a luncheon tendered by the Southern California Veterinary Medical Association, at the Chamber of Commerce, Los Angeles, on October 6, 1930. A few days later, on October 11, Dr. Crespo was similarly honored by the Bay Counties Veterinary Medical Association, at the Elks Club, San Francisco. On both occasions Dr. Crespo spoke at considerable length concerning the organization of the veterinary service in Cuba and the valuable work that is being done by the Cuban government to develop the live stock industry of the island republic and protect it from the ravages of devastating diseases.

---

First Lieutenant Abelardo Fernandez Maltberty, of the Cuban Army is taking special work in surgery at the School of Veterinary Medicine, University of Pennsylvania.

## SMALL-ANIMAL HOSPITALIZATION.\*

*By W. E. FRINK, Los Angeles, Calif.*

It has come to pass in recent years that no veterinary program is complete without some discussion of small-animal hospitalization and here in California, where the science is so well developed, we cannot afford to be the exception.

The subject is indeed a broad one and the rapidly changing requirements as to equipment and methods, make it one that may be discussed to advantage as often as brought to our attention.

After listening to what I am about to read, I am sure my hearers will agree that I have approached the subject with an open mind, but there may remain some doubt as to whether anything has taken advantage of the opening.

In this paper, to be read in Los Angeles, where our hospitals for dogs and cats are second to none in the world (in fact, like the climate, they may be described as quite unusual) it would be a waste of time to go into detail regarding building requirements, as visiting veterinarians will be able to get first-hand information by personal inspection of some of these remarkable institutions, the owners of which I am sure will be proud to show them.

The only veterinarian to whom I would offer a suggestion regarding a small-animal hospital, is the man located in a large town or small city and having a mixed practice. This man, I believe, too frequently neglects his opportunity to develop a paying dog and cat practice, through failure to provide attractive, clean, warm quarters where his patients might be housed. Too often he depends on a few dark kennels in the garage or barn. To this man I would say, if you have no separate building for the purpose, build a small addition to or partition off a portion of your present building, see that it is well lighted and ventilated, provided with heat and equipped with a few nice roomy kennels. The fact that you have such equipment will soon become known and you will be surprised at the extra monetary return besides the satisfaction in having a suitable place to care for such cases as occasions demand.

As I said before, anything I might say regarding hospital construction would be superfluous after you have inspected the

\*Presented at the sixty-seventh annual meeting of the American Veterinary Medical Association, Los Angeles, Calif., August 26-29, 1930.

hospitals in and around Los Angeles. Therefore, I hope to confine my remarks more to hospitalization methods, as they are quite as important as equipment, and I believe more apt to be neglected.

The kind of hospital one will conduct and the resultant degree of success will depend upon one's objective; that is, if one's sole object is the monetary return, then time will see that which perhaps at first was an honest-to-goodness hospital, gradually become commercialized at the expense of its scientific and humane intent and purpose, until it becomes not much more than a means of getting money from the public.

The same thing is true of our larger human hospitals and both these institutions and the medical profession are being severely criticized for this tendency. They have lost all personal touch, except perhaps the financial one, and the patient goes through a fixed routine as to diagnosis and treatment, both surgical and medical, without any consideration of his individual characteristics, physical, mental or financial. This is to be deplored, as such treatment and surroundings are not always the most conducive to successful results.

In many cities the activities of humane organizations are the subject of discussions, as they interfere with the field of the private practitioner. This trespass is usually the result of one or both of two things—either the veterinary service is of a lower grade than the public demands, or the hospitals are losing out on account of indifference or high-handed practices.

The veterinarian of today, who is engaged in small-animal practice involving, of course, hospitalization, finds himself in a position similar to that of the practitioner of twenty years ago, when the successful prevention of hog cholera by the use of serum and virus was introduced. This occurred when the profession was evolving from the "horse doctor" to the veterinarian and the stock-owners were beginning to look to us for assistance in their live stock problems. Before this the veterinarian was more in demand to treat individual cases, but at this time he was called to a larger field, that of sanitation and disease prevention, and he had at hand in serum and virus what proved to be a specific if intelligently used, but a large number of men seized upon it as a panacea for all procine disorders and the double treatment was administered for everything of which a hog showed symptoms.

A few years later, we awoke to the realization that only healthy hogs could be immunized and a great many factors regarding the feeding and handling of the herd had to be considered if the vaccination was to be successful. But so many men had failed to get the desired results in their effort to immunize or cure the disease and had in so many instances charged so much for the serum and service, and when losses still continued, naturally the owner was dissatisfied and the profession criticized. The farmer, still anxious for assistance, turned to the farm bureau and county agent, whose purpose is to help solve agricultural problems, and the agricultural colleges and their extension men got the credit and the farmer continued to demand that these agencies carry on a work that rightfully belonged to the local practitioner.

Even today these agencies are taking a large toll from what should belong to the profession.

I think we may reasonably compare the situation described with the one that confronts the small-animal practitioner of today and unless he is thorough in his diagnosis, conscientious in his treatment, and honest in the information and advice he dispenses to his client, some other agency will be found to give the information and advice he should have given.

The methods we now have for the prevention and treatment of canine distemper may be far from perfect but they are the best we ever had and, if used intelligently, will reflect to the credit of the profession. But, on the other hand, if used for every canine disorder without regard to other factors having an influence on the resistance or susceptibility of the animal and without any attempt to enlighten the owner regarding the nature of the disease or its complications, both the veterinarian and the treatment are bound to suffer.

Instead of taking advantage of the public's ignorance, we should try to give them the advantage of what little information we may possess regarding the feeding and care of animals; what to expect and what not to expect from our treatment; that we are not seers but men trained in the care of animals both in health and disease. If we can do this and keep at it, I am sure it will reflect to the credit of the profession and we need have no fear of any outside competition.

The discussions I have heard on this subject were all from the viewpoint of the veterinarian but there are three parties to the contract implied in animal hospitalization, namely, the animal,

its owner and the veterinarian, and I think they should be considered in this order.

The owner who finds it necessary to place his animal in a hospital for treatment has a right to expect a clean, attractive, business-like office, containing no loafers, and a courteous attendant, if the veterinarian cannot receive all callers. He should be permitted to see the veterinarian as soon as possible, as long waits are not good for business reasons. He should be given as complete an explanation of the nature of the condition as is possible, in terms he can understand, supplemented by illustrations from text-books or periodicals if practicable. He should be allowed to see the place where his animal is to be kept, informed as to the length of time it will probably require for treatment and the probable cost as far as may be determined at the time. He also has the right to expect truthful reports regarding the condition of the patient as he may inquire during the period of hospitalization.

The patient has a right to expect that a little time will be spent in helping to overcome his natural timidity in his new surroundings; that he will be handled as gently as is consistent with the safety of the veterinarian or the attendants; that he will not be subjected to rough or inhumane treatment because he happens to be a dog or cat, and that during any painful operations or dressings he will be given the same consideration of his capacity for physical suffering as though he were a human patient. He further has a right to expect a roomy, clean, dry kennel, in a warm, well-lighted and ventilated ward; a comfortable bed of suitable material, the same to be changed or kennel cleaned as soon as soiled; plenty of fresh water and suitable food; proper medical or surgical treatment or dressings as frequently as the case may require, and to be discharged as soon as cured.

The veterinarian expects the patient to be submitted before the disease is so far progressed that treatment is useless; that the owner will give all possible history that may have a bearing on the case; that the owner will allow a suitable time for observation before a diagnosis is made in obscure cases; also that the owner will cooperate by giving a substantial advance payment and, what is quite important, will allow a reasonable time for a cure instead of expecting the impossible and, finally, that which is important, the account be settled at the time the patient is discharged.

If these details can be understood and arranged with the cooperation of all parties, most of the dissatisfaction and friction in animal hospitalization may be avoided.

I would like to mention the necessity for records of each and every animal that enters the hospital. Very often this seems unimportant but one can never tell when it might be necessary or at least very convenient to be able to refer to a record of a previous transaction. It may be to fix a date, an address, phone number, date of birth of puppies, or last year's vacation date. Nearly always some information of value at a later date is contained in such a record. Besides, it is business-like and shows an interest in one's work.

What I consider one of the weakest points in a large number, if not in all animal hospitals, is the practice of giving a flat rate or a certain sum per day or week for hospital care, including the veterinarian's service. This is rarely done in human hospitals and is too inelastic and sometimes leads to misunderstandings. It is much better to have a fixed charge for board and care, termed a hospitalization fee, to which may be added, at the discretion of the veterinarian, a flexible charge for his services and extra medicines or serums, as is done in human hospitals. This enables one to make a much more equitable charge and allows one to care for semi-charity cases without opportunity for misunderstanding. As an example, one would care for a distemper or pneumonia case, making a charge of one dollar per day for hospitalization and an additional dollar or dollar and a half for the medical care, medicines, etc. This conveys to the owner that the animal is getting something besides board and room. On the other hand, a case of skin disease that required perhaps one treatment daily could be taken at a flat rate of five dollars per week for board and care, and five dollars for the professional service. Later, if these two owners got to talking things over it could be readily understood that it was the difference in the medical care that made the difference in the fee.

We should endeavor to impress our clients with the fact that they are not only paying for the actual care of the animal but for the advice and skill of a professional man as well, and that in conducting a small-animal hospital we are not only selling service but knowledge.

I feel that I should offer an apology for two things: First, in my presumption that I could offer a paper that would be of much interest to the majority of my hearers, who are experienced

in this work, and second, for the rambling nature of this article. But to me, my work is a serious matter besides being a means of livelihood, and the points I have endeavored to bring out seem to be ones that will bear frequent repetition.

I might at this point, to advantage, use a favorite story of ex-Dean Moore, of Cornell, who tells of the Scotchman who became wealthy from the baking business. When asked how he had been able to make so much money out of bread, he replied, "I make the best bread in the Kingdom and the money makes itself."

The future of the profession is in the hands of its members and the future of the small-animal hospital depends upon how we respond to the rapidly growing demand for the services of such an institution. Much educational work must be done among pet-owners as to the care of their animals in health and disease, as the modern owner of a dog or cat has had little or no training in animal industry and the problem of raising or keeping a pet is a real one.

If we, as veterinarians are to have the confidence and respect of the public, we must at all times endeavor to perform an honest, conscientious service. This accomplished, we shall be sure to receive our reward.

#### DISCUSSION

DR. J. L. MASSON: I would like to relate an experiment that I have been conducting recently. I have purchased what is known as a chlorozone instrument, operated by attaching it to an electric light socket. I bought this for the purpose of purifying the air and destroying odors. This is often used in business places and office buildings. I had an outbreak of distemper in a new block of kennels, steel and concrete, with wood platforms. It was suggested to me by a noted chemist that I try this chlorozone as a means of disinfecting these kennels. So I placed the chlorozone in and let it run overnight, after closing all ventilation. About two weeks afterwards, I put a young dog in there. I have had twelve dogs in that kennel without a break. I have tried it in several different kennels since and have not had a break. I would like to ask if anyone here has used the instrument or has had any experience with it as a disinfectant?

DR. J. C. FLYNN: I have had five of the same instruments put in my place experimentally and I cannot say that I have had quite the successful result that the doctor just mentioned. I found, however, that possibly I used more than necessary to destroy odors and also to disinfect. We used the five instruments in a space, when partitioned off, something the size of this room. They seemed to be irritating, after working several hours in the room, and they seemed to give one a metallic taste in the mouth. The attendants complained about it, and I felt the same way myself, so we discontinued the use of them. I don't know but what they may have some value along the line the doctor just mentioned, and his experience seems to bear it out, but ours were not quite so satisfactory.

DR. MASSON: The suggestion made to me was to have everything damp. These kennels were individual kennels, four by five, and six feet high. He said to have it about three feet from the floor and to sprinkle the kennels. Of

course, I don't know if it was just a case of luck with me or not. At the present time I have two wire-haired pups just weaned and placed them in there last Friday. So far I have had no breaks.

DR. E. R. STEEL: Did you take into consideration, or give any thought to the possibility of the distemper virus being killed in that cage in two weeks after the dogs were put in there? The distemper virus is hard to keep alive that long.

DR. MASSON: My reason for waiting two weeks is that I didn't have use for the kennel until that time.

DR. STEEL: Don't you think that cage would have been all right without any treatment of this kind? I know, in dealing with one of the firms that make distemper virus, that they say with ordinary cleaning, without any disinfectant at all, they can put pups in a box-stall where dogs have died with distemper, because the virus dies out very readily; and it will die out in less than thirty-six hours in ordinary atmospheric conditions.

DR. MASSON: I haven't found it that way. I have houses out on the ground and when I get distemper in a house I destroy the house. They cost me \$7.50 apiece. They are made of redwood.

DR. D. H. WYATT: I am interested in the life of this virus the same as all of you are. If it is of such short life and loses its virulence so easily, why worry about it? What keeps this thing going? Where does it get its life? If it doesn't get it from the virus, where does it come from? Something is mysterious about this thing. Where is all the trouble? If it is so non-potent, why worry?

DR. MASSON: I have some friends who have given up and moved to new localities on account of distemper. They are in the kennel business, breeders of dogs. They have now been about three years trying to clear up distemper on the place. They do not bring in any dogs with distemper. They raise all their own dogs. They were out here at Sebastopol and they gave up the place this last year.

DR. STEEL: I think that the virus is kept alive from the fresh discharges of the dog, or the dog itself. The dog is the best carrier of distemper. I know that if we destroyed all the cages in which we have had distemper dogs we wouldn't have any cages left in the hospital.

We have a method of keeping the dog in the same cage while at the hospital and, after he goes out, that cage is scrubbed thoroughly with a washing powder and scalded with hot water and it is then sprayed with a 1 per cent solution of cresol. Another dog can be put in there in twenty-four hours. The British report on that in their work in England, that the kennel is absolutely safe within twenty-four hours.

DR. WYATT: We go along and do not see any distemper for quite a few days, a few weeks, and sometimes a month, and we do business right along. Then there comes a break and we will be bothered with distemper. I don't understand it yet.

DR. C. C. ODERKIRK: About four years ago I had a lady who was running a Boston kennel. She had distemper in there continuously for about a year. She hadn't brought anything new in there. The distemper would clear up, break out, clear up and break out again. We finally noticed that there was a matron in one cage, and that a puppy in that cage, or in the cage at either side, would break with distemper. We took the dog out and got rid of her. It has been three years since she has had distemper cases in that kennel. The belief in my mind, and I cannot back it up at all, but I consider that that matron was a distemper carrier, for the simple reason that the runway where her pups were infected the pups on each side. As soon as we got rid of her, that was the end of the trouble and there has been no distemper since.

DR. A. A. HERMANN: It seems that most of the distemper comes from kennel people and competitors who would criticize cement structures and cement-floored yards. It seems that it is nearly impossible to disinfect the soil. It is quite difficult to disinfect wood, or other semi-porous materials, and it leaves only a small surface, cement or steel construction, to be impervious to moisture and to the bacteria that might reside in crevices. It has been my experience that the cement-covered yard, with perhaps a small wood platform that has

in this work, and second, for the rambling nature of this article. But to me, my work is a serious matter besides being a means of livelihood, and the points I have endeavored to bring out seem to be ones that will bear frequent repetition.

I might at this point, to advantage, use a favorite story of ex-Dean Moore, of Cornell, who tells of the Scotchman who became wealthy from the baking business. When asked how he had been able to make so much money out of bread, he replied, "I make the best bread in the Kingdom and the money makes itself."

The future of the profession is in the hands of its members and the future of the small-animal hospital depends upon how we respond to the rapidly growing demand for the services of such an institution. Much educational work must be done among pet-owners as to the care of their animals in health and disease, as the modern owner of a dog or cat has had little or no training in animal industry and the problem of raising or keeping a pet is a real one.

If we, as veterinarians are to have the confidence and respect of the public, we must at all times endeavor to perform an honest, conscientious service. This accomplished, we shall be sure to receive our reward.

#### DISCUSSION

**DR. J. L. MASSON:** I would like to relate an experiment that I have been conducting recently. I have purchased what is known as a chlorozone instrument, operated by attaching it to an electric light socket. I bought this for the purpose of purifying the air and destroying odors. This is often used in business places and office buildings. I had an outbreak of distemper in a new block of kennels, steel and concrete, with wood platforms. It was suggested to me by a noted chemist that I try this chlorozone as a means of disinfecting these kennels. So I placed the chlorozone in and let it run overnight, after closing all ventilation. About two weeks afterwards, I put a young dog in there. I have had twelve dogs in that kennel without a break. I have tried it in several different kennels since and have not had a break. I would like to ask if anyone here has used the instrument or has had any experience with it as a disinfectant?

**DR. J. C. FLYNN:** I have had five of the same instruments put in my place experimentally and I cannot say that I have had quite the successful result that the doctor just mentioned. I found, however, that possibly I used more than necessary to destroy odors and also to disinfect. We used the five instruments in a space, when partitioned off, something the size of this room. They seemed to be irritating, after working several hours in the room, and they seemed to give one a metallic taste in the mouth. The attendants complained about it, and I felt the same way myself, so we discontinued the use of them. I don't know but what they may have some value along the line the doctor just mentioned, and his experience seems to bear it out, but ours were not quite so satisfactory.

**DR. MASSON:** The suggestion made to me was to have everything damp. These kennels were individual kennels, four by five, and six feet high. He said to have it about three feet from the floor and to sprinkle the kennels. Of

course, I don't know if it was just a case of luck with me or not. At the present time I have two wire-haired pups just weaned and placed them in there last Friday. So far I have had no breaks.

DR. E. R. STEEL: Did you take into consideration, or give any thought to the possibility of the distemper virus being killed in that cage in two weeks after the dogs were put in there? The distemper virus is hard to keep alive that long.

DR. MASSON: My reason for waiting two weeks is that I didn't have use for the kennel until that time.

DR. STEEL: Don't you think that cage would have been all right without any treatment of this kind? I know, in dealing with one of the firms that make distemper virus, that they say with ordinary cleaning, without any disinfectant at all, they can put pups in a box-stall where dogs have died with distemper, because the virus dies out very readily; and it will die out in less than thirty-six hours in ordinary atmospheric conditions.

DR. MASSON: I haven't found it that way. I have houses out on the ground and when I get distemper in a house I destroy the house. They cost me \$7.50 apiece. They are made of redwood.

DR. D. H. WYATT: I am interested in the life of this virus the same as all of you are. If it is of such short life and loses its virulence so easily, why worry about it? What keeps this thing going? Where does it get its life? If it doesn't get it from the virus, where does it come from? Something is mysterious about this thing. Where is all the trouble? If it is so non-potent, why worry?

DR. MASSON: I have some friends who have given up and moved to new localities on account of distemper. They are in the kennel business, breeders of dogs. They have now been about three years trying to clear up distemper on the place. They do not bring in any dogs with distemper. They raise all their own dogs. They were out here at Sebastopol and they gave up the place this last year.

DR. STEEL: I think that the virus is kept alive from the fresh discharges of the dog, or the dog itself. The dog is the best carrier of distemper. I know that if we destroyed all the cages in which we have had distemper dogs we wouldn't have any cages left in the hospital.

We have a method of keeping the dog in the same cage while at the hospital and, after he goes out, that cage is scrubbed thoroughly with a washing powder and scalded with hot water and it is then sprayed with a 1 per cent solution of cresol. Another dog can be put in there in twenty-four hours. The British report on that in their work in England, that the kennel is absolutely safe within twenty-four hours.

DR. WYATT: We go along and do not see any distemper for quite a few days, a few weeks, and sometimes a month, and we do business right along. Then there comes a break and we will be bothered with distemper. I don't understand it yet.

DR. C. C. ODERKIRK: About four years ago I had a lady who was running a Boston kennel. She had distemper in there continuously for about a year. She hadn't brought anything new in there. The distemper would clear up, break out, clear up and break out again. We finally noticed that there was a matron in one cage, and that a puppy in that cage, or in the cage at either side, would break with distemper. We took the dog out and got rid of her. It has been three years since she has had distemper cases in that kennel. The belief in my mind, and I cannot back it up at all, but I consider that that matron was a distemper carrier, for the simple reason that the runway where her pups were infected the pups on each side. As soon as we got rid of her, that was the end of the trouble and there has been no distemper since.

DR. A. A. HERMANN: It seems that most of the distemper comes from kennel people and competitors who would criticize cement structures and cement-floored yards. It seems that it is nearly impossible to disinfect the soil. It is quite difficult to disinfect wood, or other semi-porous materials, and it leaves only a small surface, cement or steel construction, to be impervious to moisture and to the bacteria that might reside in crevices. It has been my experience that the cement-covered yard, with perhaps a small wood platform that has

been thoroughly impregnated with creosote, is about the only satisfactory kennel yard that can be had.

We have a kennel, a boarding kennel, that will accommodate 300 individuals. We find that when the yards are thoroughly disinfected infection is at a minimum. We find that the blow-torch disinfection is effective but cannot be used indoors because evidently lack of oxygen will cause the flame to go out in the burner that is used. We use electrolytic chlorin compounds and superdip, or formaldehyde, as disinfectants, alternating one with the other.

**CHAIRMAN BOWER:** Do I understand that you cover your yards with a wood floor?

**DR. HERMANN:** No. We have an exercising-yard with each kennel, about twenty feet long and five feet wide, connecting with a separate apartment for sleeping quarters and fit it up with an iron bed that is covered with canvas, like a canvas cot. Out in the yard, to overcome the criticism that people may have that dogs shouldn't walk around on cement, we have a platform, like a sofa would be in a house, a platform six feet long and three feet wide, made of two-inch planks raised off the ground by little cross members and covered the same as telegraph poles are, with a wood preservative, which closes up most of the pores. We use a rather heavy coal-tar and make the boards as nearly impervious to moisture as possible.

**DR. J. KOCH:** In relation to the use of smooth surfaces in the kennels, inside wards and outside wards, I would like to relate my three years' experience with plastic cement kennels in surgical and general wards in hospital building. These kennels were finished in plastic cement. By that I mean a surface that was impervious to moisture. Each of these kennels was finished with plastic cement on the floor, on the two sides and in the rear. The tops were covered with No. 14 graphite. I would like to say during the three years' experience with this type of kennel—and each kennel has an individual drain, the kennel floor sloping to the right rear corner—I would like to say that with this type of kennel—using chlorin and formaldehyde, all the way from one to five per cent solutions, sometimes in combination and sometimes separately—I have found that distemper was easily kept down within these wards. However, the objection often arose from the owner that the cement floors were cold and uncomfortable to the patients. I attempted to overcome this objection by the use of pads from one-half to one inch in thickness, filled with automobile upholstering, and covered with waterproof material, commonly found on the tops of automobiles. However, I found that in the majority of cases it was difficult to keep the patients on the pads unless the pads were large enough to almost completely cover the floor of the kennel used. Even then the dogs at times would tear up the pads and get on the cement floor. My experience, from the objection of the owner, has led me, as well as from poor results in the treatment of certain types of cases in hospitals with these kennels, to discontinue the use of plastic cement except for inside wards in the new hospital which I am operating.

**DR. C. A. WHITE:** This, to me, is a very interesting subject and I never looked on the virus of distemper being so formidable. We know that strong sunlight will destroy it in a very few hours, but of course our hospitals are not such that they can have sunlight in every corner. But ordinary disinfection, such as described by Dr. Steel, I think, is all that is necessary. That disposes of the infection in a little while and I have frequently put a puppy in a stall that had been disinfected in the manner just described, as soon as it was dry, with no bad results. It is not that, but it is the fact that we are unable to make a thorough diagnosis, or an early diagnosis. We, in small-animal practice, have had dogs in our hospital for two and three and four days, and probably longer than that, before we were able to recognize distemper. By that time it is in the large kennel, where distemper cases are not kept, and it will infect the other dogs. If we can find out some means of early diagnosis, I think this question will be solved. But we can not do it at the present time. Possibly at some later time we will be able to find out, or make a diagnosis by scientific means, but at the present time it is not so. Ordinary disinfectants, I think, are sufficient to destroy it.

## THE CHEMIST'S VIEWPOINT OF LIVE STOCK NOSTRUMS\*

*By J. H. WEINER, Kansas City, Mo.*

I will endeavor in this talk to give you, rather than individual analyses, a general résumé of the live stock nostrum industry. Perhaps it would be proper to acquaint you with the present status of this work before going into detail, as to the harmful influence and great toll the manufacturers of nostrums or fake patent medicines for live stock have taken.

About three years ago, when this nostrum project was first undertaken, it was done in a rather unorganized fashion, no effort being made to inform your Committee on Proprietary Pharmaceuticals of the findings. After a talk made at Des Moines, some two years ago, Dr. H. D. Bergman, chairman of your Committee, suggested that I cooperate with the Committee, by sending my reports of analyses to him and to advise the Committee generally of my activities in regards to nostrum investigations. At Detroit, last year, the Committee again asked that I continue to cooperate in a rather unofficial fashion, as advisory chemist to the Committee, hoping that perhaps some day this work would be undertaken by a Council on Pharmacy and Chemistry, similar to the one maintained by the American Medical Association. All my addresses are made with the knowledge of your Committee and all credit for this work, which is of such vital importance to you as veterinarians, should go to the Committee on Proprietary Pharmaceuticals. It might be added further that this year sixteen addresses have been made and, over the past three years, forty-two talks have been delivered on this particular subject.

As a scourge that eats into the very heart of your profession, live stock nostrums have no equal. As a method of swindling, or fraudulently taking money and wantonly destroying animal life, they are without a doubt the greatest evil affecting the veterinary world. The tentacles are deeply rooted and the ramifications are many. The letters received from veterinarians, hundreds of them, are indicative of the inestimable damage that these wilful veterinary medical charlatans are inflicting.

Gentlemen, in the past three years, we have made analyses of 433 preparations manufactured in 26 states. But two of them

were worthy of commendation. I have these reports with me and I shall be glad to have you peruse them if you so wish. Many so-called cure-alls are absolutely devoid of therapeutic merit, some of them containing over 99 per cent of water. In a neighboring state, a product selling for five dollars a pound package and purporting to be a panacea for abortion disease, was found upon analysis to contain nothing but pure bicarbonate of soda, worth perhaps four or five cents a pound. Unfortunately, time will not permit going into detail as to the analyses of many of these preparations, so therefore I hope you will avail yourself of the opportunity to read these reports I have with me.

Guarantees run rife and rampant as to the worth of these nefarious, makeshift preparations, many manufacturers offering to return your money if not satisfied. It is not possible, of course, to get this money back.

Gentlemen, it may be conservatively estimated that the American farmers and animal owners are being defrauded each year out of about twenty million dollars by the use of nostrums. This has its economic side as regards the veterinary profession, in that the person using them pays money to these swindlers, often doing the animal harm rather than good in their non-therapeutic, oftentimes toxic, concoctions and then has not the wherewithal to pay the veterinarian who must be called if the animal's life is to be saved.

In an analysis made for Dr. E. L. Quitman, of Chicago, it was found that the animal died of strychnin poisoning. On further investigation of the particular tablets used, we were able to detect and determine lethal doses of strychnin sulphate. What a travesty on veterinary medicine when laymen, through fantastic, maliciously untrue, far-fetched, attractive, misleading advertising buy such products only to result in fatalities.

You in veterinary medicine are going through the same dark days that human medicine had to span. The tricks and the glib-tongued emissaries of human medicine are no more and they go to seek more fertile fields and have found them in your midst. That great weapon, "publicity," mercilessly applied, has exposed their hands and their activities to such an extent that they are losing ground. But they are with you and you must fight them and fight them hard and you can win. I am happy in the fact that I have been able to help in a small way in the fight.

Dr. Bergman is working in his sure, quiet way, and getting results with the various agricultural and similar publications,

acting in an advisory capacity and asking them to delete from their advertising many of the questionable products. I know of an instance where a large farm journal publishing concern, through his efforts, refused a twenty thousand dollar contract for advertising because the claims of the manufacturer were absolutely contrary to the precepts of veterinary medicine.

It is indeed gratifying that five states have enacted live stock remedy legislation. The secretary of agriculture of the state of Kansas informed me recently that the great state of California had asked for advice as to the enactment of a law similar to the live stock remedy act of Kansas. Just recently I received a letter from Dr. J. H. Bux, State Veterinarian of Arkansas, and it looks like this state will fall in line. Kansas is trying to make their law even more forceful and I have been asked to lend certain aid in this work.

At this meeting there is a representative of the U. S. Department of Agriculture, Food and Drug Administration. As a matter of fact he is their advisory veterinarian. He has done and is doing a great two-fold work. Two-fold because he has taught legitimate manufacturers to realize the value of cleaning house themselves and his kindly and timely advice has put these manufacturers on an ethical plane, far beyond the opportunity of criticism by nostrum producers. A great deal of credit is due and should be given Dr. H. E. Moskey, of Washington, D. C.

Gentlemen, each and every one of you should aid in the elimination of this blight upon your profession. Each and every one of you should appoint yourselves an emissary, carrying the truth to your clients as to how they are being defrauded by the use of these sundry worthless veterinary preparations.

Your Association should work hard toward the establishment of a Council on Pharmacy and Chemistry, whose duties among others will be to investigate nostrums, publish their findings and disseminate generally such information to you and your clients. The legitimate veterinary medical manufacturers, as well as you, should be glad to support such a council and then working in conjunction with the U. S. Department of Agriculture, Food and Drug Administration, it will be only a matter of time when these producers of worthless remedies will be driven from the field of veterinary medicine. The establishment of such a council will be a great step forward and will denote a great mark in veterinary progress.

In conclusion let me say that I am happy to have had the privilege and pleasure of addressing you and let me also state that it will be of untold worth to you as individuals and to your Association and profession, if you all become interested in this scourge and cooperate actively in fighting it.

---

### "Read the Label" Talks for Feeders

Farmers who buy feeds for live stock are to have their own series of "read-the-label" radio talks, beginning this month, Morse Salisbury, Chief of the Radio Service, U. S. Department of Agriculture, recently announced. Four talks will be broadcast by 83 representative radio stations, the first to come on Monday, November 3. The other three will follow at weekly intervals thereafter.

Cottonseed meal will be the subject of the November 3 talk. Discussions of mixed feeds, grain by-products, and alfalfa leaf-meal will follow in that order. The talks are scheduled under the Radio Service's Farm Reporter services. Information for these talks and practical suggestions on how farmers can save money by reading the label on the feed-bag, will be furnished by the cattle-feed unit, Food Control Office, of the Food and Drug Administration.

This new series comes as an extension of the administration's campaign to teach buyers of food and drugs how to read intelligently the labels on those products. The administration, through the Radio Service, is now broadcasting, from representative chains and stations of nation-wide importance, three separate "read the label" programs. The stock-feed series comprises the fourth unit in this program.

---

### Poultry Disease School at Cornell

The second Poultry Disease School for Veterinarians will be held at the New York State Veterinary College, Cornell University, Ithaca, January 13-14, 1931, immediately preceding the twenty-third Cornell Conference, according to information supplied by Dr. E. L. Brunett. The program will cover culling, poultry management and feeding, postmortem anatomy, anthelmintics in the control of parasitic diseases, and the more important infectious diseases, including pullorum disease, avian tuberculosis and fowl-pox.

## A REVIEW OF TUBERCULOSIS CONTROL IN CALIFORNIA\*

By J. P. IVERSON, *Sacramento, California*

*Chief, Division of Animal Industry, California Department of Agriculture*

During the last ten years, tuberculosis eradication in cattle has been a major activity in nearly every state in the Union. In general the program has been co-operatively conducted along similar lines in each state, with variations necessitated by local factors. Therefore, I shall not take time to review in detail what has been accomplished in California or give extensive data relative thereto. Rather, shall I attempt to make these remarks brief and set forth certain state activities in this direction, the value of which may not be appreciated or the procedures well understood by those engaged in sanitary work in other states.

In the Bureau publications we have read each year of the increasing numbers of cities enacting ordinances prohibiting the sale of raw milk unless produced by tuberculin-tested cows. Emphasis has been laid on the increasing number from year to year. Accordingly, I am pleased to offer the information that every city, town, hamlet and farm in the entire state of California has been under such statutory regulation for fifteen years. This was accomplished by the enactment of the Pure Milk Law, in 1915, which statute prohibits the sale of unpasteurized dairy products unless the same be produced by cows tuberculin-tested regularly by veterinarians of the State Division of Animal Industry. This law not only includes dairy cows, but family cows must be tested if milk is sold, exchanged, or given away to a neighbor. It might be of interest to state that this law was placed on the statute books before federal-state accreditation of herds began; which in turn was prior to the larger plan of area eradication.

You will realize that embarking on so extensive a scale of tuberculin-testing on this state-wide plan was considered no minor responsibility in 1915. Furthermore, the procedure had not been tried in any other state and there were no precedents to follow. The work began in 1916 and proceeded satisfactorily,

\*Presented at the sixty-seventh annual meeting of the American Veterinary Medical Association, Los Angeles, Calif., August 26-29, 1930.

meeting with favorable public response. Passed as a public health measure, I am pleased to say it has been the means of entirely eradicating the disease from thousands of dairy herds in California.

During the last year, 10,229 herds, totalling 213,749 dairy cattle, were regularly tested annually or semi-annually under this Pure Milk Law. Of the herds, 82 per cent were found entirely free from tuberculosis. The law requires the test shall be made semi-annually if infection is found, otherwise annually. Funds are provided to employ full-time veterinarians to do this work.

It will be readily appreciated that in 1915 the state law could not demand the slaughter of reactors. Being passed to regulate and improve the raw milk supply for the protection of consumers, the act demanded the marking and immediate exclusion of reactors from the premises where the dairy herd is kept. The addition of untested cows was prohibited. This procedure has been carried on for fifteen years and while those unaware of the results achieved may consider it of minor value in tuberculosis eradication, I can give assurance that it has accomplished much in this direction. By this work tuberculosis has been eradicated in some counties, of which the following are cited as examples:

San Diego County has about 11,000 dairy cattle, all of which are tested regularly by state veterinarians, under the Pure Milk Law. For more than five years in this county the percentage of infection has steadily decreased, being reduced last year below one per cent.

Ventura is another county where this law has served to eradicate tuberculosis from dairy cattle, the percentage there being a fraction of one per cent.

The Pure Milk Law has operated very effectively also in Los Angeles County. Last year the State Division of Animal Industry tuberculin-tested 63,884 cows in this county, of which 7.16 per cent were found infected, a sharp reduction over former years.

Similar beneficial results have been accomplished in many other counties in California. The average state percentage of tuberculosis in cattle undoubtedly has been materially reduced in the last fourteen years by this work. Table I indicates the number of cattle tested annually under the Pure Milk Law:

TABLE I—*Cattle tested annually under the Pure Milk Law*

YEAR	CATTLE TESTED
1919	64,285
1920	60,727
1921	77,156
1922	109,660
1923	101,868
1924	44,538*
1925	103,319
1926	122,248
1927	133,358
1928	162,410
1929	213,749
1930	300,000†

\*Decrease due to outbreak of foot-and-mouth disease

†Estimated

The legislature in 1921 passed the Tuberculosis Free Area Law. This act gave authority to the State Department of Agriculture to undertake tuberculosis eradication coöperatively in counties desiring this service. In such counties all cattle were subject to test. Owners could not refuse to test, since the law makes it obligatory for them to assemble their cattle for testing. If they refused, the Division of Animal Industry was to gather and test the cattle, and expense incurred by this procedure became a lien on the cattle. If the owner did not pay, a sufficient number of cattle were sold to pay all costs.

Since there was some question concerning the legality of paying indemnity under the California Constitution, indemnity was denied the owners. Area tuberculosis eradication under this law began in Modoc and Lassen counties, in 1922, and the activity has continued to grow until seven counties are now included. They are Siskiyou, Modoc, Shasta, Lassen, Tehama, Plumas and Santa Cruz. In area they include about 25,000 square miles, almost the size of the states of New Hampshire, Vermont and Massachusetts. Approximately 250,000 cattle are under supervision in these counties. The reactors have all been slaughtered and no indemnity has been paid. Five of the counties have been declared modified accredited areas. The two remaining will be eligible for this rating in the near future. However regrettable it is that owners could not receive payment for their reactors, nevertheless, they are satisfied with the results, having but one purpose in mind, viz: the eradication of tuberculosis from their herds and their county.

In 1929, the legislature made statutory provision for the payment of indemnity. Being necessary to test the legality of the

meeting with favorable public response. Passed as a public health measure, I am pleased to say it has been the means of entirely eradicating the disease from thousands of dairy herds in California.

During the last year, 10,229 herds, totalling 213,749 dairy cattle, were regularly tested annually or semi-annually under this Pure Milk Law. Of the herds, 82 per cent were found entirely free from tuberculosis. The law requires the test shall be made semi-annually if infection is found, otherwise annually. Funds are provided to employ full-time veterinarians to do this work.

It will be readily appreciated that in 1915 the state law could not demand the slaughter of reactors. Being passed to regulate and improve the raw milk supply for the protection of consumers, the act demanded the marking and immediate exclusion of reactors from the premises where the dairy herd is kept. The addition of untested cows was prohibited. This procedure has been carried on for fifteen years and while those unaware of the results achieved may consider it of minor value in tuberculosis eradication, I can give assurance that it has accomplished much in this direction. By this work tuberculosis has been eradicated in some counties, of which the following are cited as examples:

San Diego County has about 11,000 dairy cattle, all of which are tested regularly by state veterinarians, under the Pure Milk Law. For more than five years in this county the percentage of infection has steadily decreased, being reduced last year below one per cent.

Ventura is another county where this law has served to eradicate tuberculosis from dairy cattle, the percentage there being a fraction of one per cent.

The Pure Milk Law has operated very effectively also in Los Angeles County. Last year the State Division of Animal Industry tuberculin-tested 63,884 cows in this county, of which 7.16 per cent were found infected, a sharp reduction over former years.

Similar beneficial results have been accomplished in many other counties in California. The average state percentage of tuberculosis in cattle undoubtedly has been materially reduced in the last fourteen years by this work. Table I indicates the number of cattle tested annually under the Pure Milk Law:

TABLE I—*Cattle tested annually under the Pure Milk Law*

YEAR	CATTLE TESTED
1919	64,285
1920	60,727
1921	77,156
1922	109,660
1923	101,868
1924	44,538*
1925	103,319
1926	122,248
1927	133,358
1928	162,410
1929	213,749
1930	300,000†

\*Decrease due to outbreak of foot-and-mouth disease

†Estimated

The legislature in 1921 passed the Tuberculosis Free Area Law. This act gave authority to the State Department of Agriculture to undertake tuberculosis eradication coöperatively in counties desiring this service. In such counties all cattle were subject to test. Owners could not refuse to test, since the law makes it obligatory for them to assemble their cattle for testing. If they refused, the Division of Animal Industry was to gather and test the cattle, and expense incurred by this procedure became a lien on the cattle. If the owner did not pay, a sufficient number of cattle were sold to pay all costs.

Since there was some question concerning the legality of paying indemnity under the California Constitution, indemnity was denied the owners. Area tuberculosis eradication under this law began in Modoc and Lassen counties, in 1922, and the activity has continued to grow until seven counties are now included. They are Siskiyou, Modoc, Shasta, Lassen, Tehama, Plumas and Santa Cruz. In area they include about 25,000 square miles, almost the size of the states of New Hampshire, Vermont and Massachusetts. Approximately 250,000 cattle are under supervision in these counties. The reactors have all been slaughtered and no indemnity has been paid. Five of the counties have been declared modified accredited areas. The two remaining will be eligible for this rating in the near future. However regrettable it is that owners could not receive payment for their reactors, nevertheless, they are satisfied with the results, having but one purpose in mind, viz: the eradication of tuberculosis from their herds and their county.

In 1929, the legislature made statutory provision for the payment of indemnity. Being necessary to test the legality of the

law, only a small sum was appropriated for indemnity. Now that the supreme court has decided that expenditure of funds for this purpose is legal, we anticipate being given a considerable sum at the next legislative sessions. To indicate the growth of area tuberculosis eradication, the following data outline the extent of area work thus far:

Counties.....	7
Herd.....	11,990
Cattle tested.....	471,432
Reactors (slaughtered).....	4,466

The coöperative work of establishing accredited herds began in 1921. However, as has been explained, so many thousands of herds were already given state supervision under the Pure Milk Law and in eradication areas, the growth of accredited herd work in California has been nominal. While we believe that this state includes some of the largest accredited herds in the country, the total number of herds under supervision is limited (about 305).

The tuberculosis law of 1929 also included restrictions regarding the use and sale of tuberculin. Under its provisions none but a licensed, approved veterinarian can buy, possess, or use this product. All tests shall be reported immediately and all reactors branded. The Division of Animal Industry has approved nearly five hundred veterinarians to use tuberculin. It is gratifying to have this opportunity of extending to them the appreciation of the State Department of Agriculture for the loyal and effective manner in which they have met this responsibility and the small number who failed in their trust is remarkable. The practitioners' work has been of high order and their assistance and support has meant much to the State.

It would hardly be appropriate to fail to mention the effective work of county live stock inspectors. These officers have materially assisted in carrying out the general program and they have been very helpful in promoting what has been accomplished.

Most counties in California have local ordinances prohibiting the introduction of untested or reacting animals. This has encouraged testing and reduced infection. Some counties also require the retesting of incoming cattle, a measure also of general benefit. County inspectors have attempted to cooperate conscientiously with others engaged in this work for a common purpose, and the results have meant much to those conducting a state program.

The active cooperation and assistance of the Bureau of Animal Industry has been a very important factor in contributing to the progress made in tuberculosis eradication in California.

To the Bureau, county, city inspectors, University health officials, and others too numerous to mention here, the Division of Animal Industry, State Department of Agriculture, wishes to acknowledge the benefits of their support and cooperation.

Live stock and dairy owners and organizations, and the Farm Bureau deserve and have our thanks and appreciation for their unfailing support.

In conclusion, the following suggestions are offered for consideration:

1. Since tuberculin has been demonstrated to be the most important factor in our present method of eradication of tuberculosis, it seems imperative that the distribution and use of this product should be regulated by legislative enactment in all states.

It is well known that tuberculin can be misused by unscrupulous persons, leading to grave injustices and doubts in the minds of some cattle-owners regarding the accuracy of the test. Its use, therefore, should be restricted to qualified veterinarians approved to apply tuberculin tests by the official state regulatory departments. By these procedures, the end desired could be accomplished with greater facility, and the reliability of the tuberculin test be made firmly established.

2. With the present favorable progress made in the control of this disease, it would appear that the time has arrived when the American Veterinary Medical Association should advocate the enactment of state laws prohibiting the sale of raw milk from untested cows.

For the promotion of uniformity, the state law should be the standard, permitting local county or city ordinances to be enacted in accordance with its provisions. Such statutes would improve the milk supply and afford protection to the public and also induce greater efforts toward the eradication of tuberculosis.

#### DISCUSSION

COLONEL W. GEO. TURNER: I would like to take the privilege of congratulating Dr. Iverson on this most comprehensive, edifying and instructive paper on the tuberculosis situation in California. I would like to ask one or two questions. Did I understand that any veterinarian who uses tuberculin in the state of California has to be authenticated by the state?

DR. IVERSON: Yes, that is correct.

COLONEL TURNER: One who had been authenticated by the Bureau would not be permitted to apply it?

law, only a small sum was appropriated for indemnity. Now that the supreme court has decided that expenditure of funds for this purpose is legal, we anticipate being given a considerable sum at the next legislative sessions. To indicate the growth of area tuberculosis eradication, the following data outline the extent of area work thus far:

Counties . . . . .	7
Herds . . . . .	11,990
Cattle tested . . . . .	471,432
Reactors (slaughtered) . . . . .	4,466

The coöperative work of establishing accredited herds began in 1921. However, as has been explained, so many thousands of herds were already given state supervision under the Pure Milk Law and in eradication areas, the growth of accredited herd work in California has been nominal. While we believe that this state includes some of the largest accredited herds in the country, the total number of herds under supervision is limited (about 305).

The tuberculosis law of 1929 also included restrictions regarding the use and sale of tuberculin. Under its provisions none but a licensed, approved veterinarian can buy, possess, or use this product. All tests shall be reported immediately and all reactors branded. The Division of Animal Industry has approved nearly five hundred veterinarians to use tuberculin. It is gratifying to have this opportunity of extending to them the appreciation of the State Department of Agriculture for the loyal and effective manner in which they have met this responsibility and the small number who failed in their trust is remarkable. The practitioners' work has been of high order and their assistance and support has meant much to the State.

It would hardly be appropriate to fail to mention the effective work of county live stock inspectors. These officers have materially assisted in carrying out the general program and they have been very helpful in promoting what has been accomplished.

Most counties in California have local ordinances prohibiting the introduction of untested or reacting animals. This has encouraged testing and reduced infection. Some counties also require the retesting of incoming cattle, a measure also of general benefit. County inspectors have attempted to cooperate conscientiously with others engaged in this work for a common purpose, and the results have meant much to those conducting a state program.

The active cooperation and assistance of the Bureau of Animal Industry has been a very important factor in contributing to the progress made in tuberculosis eradication in California.

To the Bureau, county, city inspectors, University health officials, and others too numerous to mention here, the Division of Animal Industry, State Department of Agriculture, wishes to acknowledge the benefits of their support and cooperation.

Live stock and dairy owners and organizations, and the Farm Bureau deserve and have our thanks and appreciation for their unfailing support.

In conclusion, the following suggestions are offered for consideration:

1. Since tuberculin has been demonstrated to be the most important factor in our present method of eradication of tuberculosis, it seems imperative that the distribution and use of this product should be regulated by legislative enactment in all states.

It is well known that tuberculin can be misused by unscrupulous persons, leading to grave injustices and doubts in the minds of some cattle-owners regarding the accuracy of the test. Its use, therefore, should be restricted to qualified veterinarians approved to apply tuberculin tests by the official state regulatory departments. By these procedures, the end desired could be accomplished with greater facility, and the reliability of the tuberculin test be made firmly established.

2. With the present favorable progress made in the control of this disease, it would appear that the time has arrived when the American Veterinary Medical Association should advocate the enactment of state laws prohibiting the sale of raw milk from untested cows.

For the promotion of uniformity, the state law should be the standard, permitting local county or city ordinances to be enacted in accordance with its provisions. Such statutes would improve the milk supply and afford protection to the public and also induce greater efforts toward the eradication of tuberculosis.

#### DISCUSSION

**COLONEL W. GEO. TURNER:** I would like to take the privilege of congratulating Dr. Iverson on this most comprehensive, edifying and instructive paper on the tuberculosis situation in California. I would like to ask one or two questions. Did I understand that any veterinarian who uses tuberculin in the state of California has to be authenticated by the state?

**DR. IVERSON:** Yes, that is correct.

**COLONEL TURNER:** One who had been authenticated by the Bureau would not be permitted to apply it?

DR. IVERSON: No sir. The state law provides that the Department of Agriculture shall approve veterinarians who use tuberculin in California. Otherwise they cannot own it or use it.

COLONEL TURNER: In our schools in Washington, in what we call the Army Veterinary Center, we have six to ten officers a year, usually of the junior grades, who take what we consider and what you people who know of it consider one of the most valuable postgraduate courses available to veterinarians in this country.

During the progress of these courses the Bureau of Animal Industry authenticates our officers who show that they are competent to administer and read tuberculin tests. As far as I know, there is no state in the Union, outside of California, that will not accept these officers as qualified to test cattle for tuberculosis.

Let me add that as far as I know, we do not have authorization to apply the test outside of army posts. Therefore, we would not come under the jurisdiction of the State because our posts are directly under the federal government. Am I correct in my deduction?

DR. IVERSON: I think that is correct.

COLONEL TURNER: We do have in the Army some considerable herds and a great many cattle scattered throughout the army posts, and until these officers of ours have been authenticated we have been having the Bureau men come into our posts to make these tests.

There is one other thing I want to ask you. I noticed that you referred to tuberculin-tested herds. Our officers are reporting cattle in smaller numbers in some herds and the same thing in our tests for glanders. Incidentally I might say for your information that it has practically eliminated glanders. They would report these cattle as having been tuberculin-tested, but I did not think it was sufficient evidence to us. I wanted to know whether or not the herds or the cattle were free from tuberculosis. So we required in those tests, as well as in the tests for glanders, that they must state the character of reaction. The tuberculin test of herds did not mean they were all free of tuberculosis, and I believe we should adopt that phraseology. We realize what you mean by a tuberculin-tested herd, but an authority may go in and test a herd of cattle in which you may have five or ten or fifteen per cent of reactors.

I believe it would be a good plan—it is a mere suggestion—to speak of them as tuberculosis-free.

DR. IVERSON: I think that is a better term to use.

With reference to Army veterinarians and Bureau veterinarians, I would like to say that I do not wish to give a false impression. I do not mean that the Bureau veterinarians will not be permitted to test cattle in California. It will be assumed and certainly it will be permitted that any official veterinarian coming to this state will be permitted to make those tests if he wishes to apply for formal approval and it will be granted without question.

If he did not apply for formal approval and if he were testing at military posts, he would be outside of the jurisdiction of California anyway.

COLONEL TURNER: Of course they are prohibited by law to practice. They would always, including myself, be glad to consult with any veterinarians in our community. We relish it and appreciate it, and while we might not be worth a darn to you, we might be on some occasions, not perhaps so much in cattle practice.

I would like to ask one other question that I almost forgot and that is whether or not California allows dairymen to sell milk from an untested herd providing the milk is pasteurized.

DR. IVERSON: It is allowed in many parts of the State, but the pasteurization is then required to be done under the supervision and control of the State Dairy Bureau, and the equipment is required to be standard and the test charts indicating the temperatures are required to be retained for a period of months.

COLONEL TURNER: You feel that is safe?

DR. IVERSON: We believe if the milk were produced from disease-free herds it would be still safer, and many municipalities in California have enacted such local ordinances requiring that even though the cattle are tuberculin-tested

and found free of infection under the Pure Milk Law, or the reactors removed from the herds, in addition to that the pasteurized milk also shall come from that class of cattle.

COLONEL TURNER: I believe that is as it should be.

DR. IVERSON: I want to take this opportunity of saying to you that we have had splendid cooperation from the Army veterinarians at the various posts. We have received reports occasionally of the discovery of glanders, and we have also received occasionally reports of the tuberculin-testing of the herds at posts, and in addition to that some of the posts and the Navy Yard Commandant have made requests of the Department and asked the Division to make tests.

COLONEL TURNER: I believe you always will ask for our cooperation.

DR. IVERSON: I might add in passing, gentlemen, that the practitioners' test under this law is required to be reported to the Department within five days after the completion of the test and the reactors are required to be branded.

DR. CLARK H. HAYS: In Nebraska we have a similar requirement regarding tuberculin, placing it in the hands of the Department as to who may use and possess the tuberculin and we certify the graduate practicing veterinarians with written authority which, however, extends farther and makes them officially representatives of the Department.

We have an Army post, Fort Robinson, in Nebraska, and have extended the same authority for testing to the Army veterinarians and the same obligations apply.

That Army post is in a section of the country where there are no practicing veterinarians, where there are occasional demands for tests for tuberculosis for interstate shipments, and the veterinarians at the post have helped the people in that community.

Under the authority which is issued and granted to them, this is made possible. We rather held to the idea, maybe falsely, that the Army veterinarian testing cattle in Nebraska should be under the same restrictions as the other practicing veterinarians, and under our arrangement can act within the keeping of the needs of that understanding.

COLONEL TURNER: I might say, while we are on the subject, and not leave out that wonderful bureau which has cooperated with us on every one of our activities quite beyond anything that might reasonably be expected. Down in Texas that splendid man, Dolmore, by request named the senior officer in every post in Texas as a collaborator in his bureau for the purpose of passing upon public animals, which are army animals of course, in shipment intra or outside of the state of Texas, and has turned over to them or offered them the facilities of their dipping vats and accepted their certificates as making them one of his own men.

DR. CHARLES E. COTTON: I should like to ask Dr. Iverson a question. I perhaps gained the inference that in this state the indemnity law of 1929 limits indemnity to the areas where eradication is in progress.

DR. IVERSON: Yes, that is correct. The law of 1929 contemplates paying indemnity for cattle slaughtered for tuberculosis only in counties that are declared control areas.

DR. COTTON: Was that point considered in the Supreme Court decision? In other words, I am just a little inclined to believe that under some circumstances that would be considered as class legislation. We have had some experience of that kind in Minnesota. You can get it into courts; however, if we undertook to pass such legislation it would be considered by the law-making bodies as class legislation and unconstitutional.

DR. IVERSON: I do not know, Dr. Cotton, whether the authorities considered that angle of the question, but it is only in the counties that are declared control counties that the cattle must be slaughtered. In the other counties the law does not say they shall be slaughtered. I presume possibly for that reason it would not be class legislation. However, I am unable to speak with any authority on the legal problem.

DR. COTTON: Is that decision available?

DR. IVERSON: That decision is available and we will be pleased to send it to any state where it can be made use of, upon request.

DR. HAYS: I do not know what may apply in other states but in Nebraska the claim for indemnity is based upon the slaughter and not upon the test, and so it sustains the point Dr. Iverson brings up.

DR. COTTON: I wish to take this opportunity to advertise, and although we are not in California there is one gratifying feature of our work I wish to report. We have now tested twelve counties for reaccrediting after the three-year period has elapsed, and in all of these counties, adding the total number of cattle tested, the total number of reactors was less than four-tenths of one per cent. Practically all of these counties were surrounded by infected areas.

Although we have our modified quarantine relative to imported cattle in these areas, immediately after the first test was initiated naturally we had some areas where numerous people ignored these regulations. We feel that as the work progresses and larger areas are taken in, the expense will be practically nil, and to us this is very gratifying and is an answer to all of the propagandists and knockers who are condemning this project as not practical and not economical from the standpoint of the large amount of money expended.

DR. IVERSON: Mr. Chairman, I certainly want to say that that is a splendid showing in the state of Minnesota, and while it is an exceptionally good showing, it is not surprising to those of us who are informed of what has been going on in tuberculosis eradication. We all know the old war horse, Dr. Cotton, has tackled the problem of tuberculosis eradication for so many years that he does not want anybody to refer to the time that it actually began. We are pleased, Doctor, that you were able to sustain what you thought could be done some half-century, more or less, ago. (Laughter and applause)

DR. A. P. IMMENSCHUH: We have a situation in the city of San Diego, at the present time, on which I would like to ask Dr. Iverson's opinion. The city of San Diego is preparing to pass an ordinance requiring that all the milk coming into the city come from tuberculosis-free areas, or rather from a county in which no reacting animals are kept for dairy purposes. I would like to know whether or not such an action is legal and whether it has ever been done in any other city.

DR. IVERSON: There are a number of cities in California requiring that all dairy cattle supplying the cities with milk, whether raw or pasteurized, shall be under supervision—regularly tested and the reactors removed from the dairy premises. Whether or not the point involved in San Diego is a legal one or not I am not capable of saying.

DR. HAYS: I believe the Chicago ordinance was based on tests declaring or certifying the health of cattle. I would suggest that you review the ordinance prepared by Dr. Bundesen four or five years ago.

CHAIRMAN BUTLER: I understood the doctor to ask if you knew of any other city in the United States that requires milk to come from an area that is tuberculosis-free and not from tuberculosis-free herds. We have many cities that require milk to come from herds that are tuberculosis-free, but personally I do not know of a city in the United States requiring milk to come from a tuberculosis-free accredited area.

DR. IMMENSCHUH: That is the subject under discussion at the present time. The county of San Diego is virtually free of tuberculosis and is producing all of the milk in San Diego that is required at the present time. The surrounding counties are not tuberculosis-free and there is some danger of milk from these counties coming into San Diego. The county of San Diego requires the slaughter of all reactors and down there we feel the same thing should apply to the counties that would like to ship milk into San Diego.

CHAIRMAN BUTLER: Pardon me, again. If the Section will pardon the Chair, I should think your question is a little involved there. You speak one minute of milk coming from a county which requires the slaughter of reactors and again as coming from a county which is a modified tuberculosis-free accredited area.

A county or the state may require the slaughter of animals and the county not necessarily be a tuberculosis-free accredited area.

DR. IMMENSCHUH: The way the ordinance was presented it will read that the milk supply must come from an area or a county where no reactor cattle are kept for dairy purposes. It doesn't specify a tuberculosis-free area.

CHAIRMAN BUTLER: That provides the same thing as the Chicago ordinance. Their ordinance would apply in this case.

DR. IMMENSCHUH: And it is legal?

CHAIRMAN BUTLER: Isn't that right, Dr. Hays?

DR. HAYS: I think so.

DR. E. R. DERFLINGER: I should like to ask Dr. Iverson what form of sanitary clean-up follows the removal of the reactors from the herd.

DR. IVERSON: I didn't mention that for the reason I thought it was a detail that would be understood.

The Department has a pamphlet supplemented by Bureau bulletins and pamphlets relating to the cleaning and disinfection of the premises. When reactors are removed from dairy herds or wherever they are found, the owner is instructed with reference to the cleaning and disinfection, and printed instructions are also left with him. So a good deal of attention is being paid to that feature of the work and it is a very important part of the tuberculosis program. It is very important and deserves all the attention that is given to it.

### Program for Improvement of Live Stock

Recommendations for the improvement of domestic animals, their proper care and management, and the control of live stock diseases and parasites appear in a new publication issued by the U. S. Department of Agriculture as Miscellaneous Publication 81-MP, "Recommendations of the Bureau of Animal Industry on Problems of Live Stock Production." It is intended for stockmen, agricultural writers, county agents, live stock specialists, veterinarians and others interested in the welfare and betterment of the live stock industry.

In the chapter on breeding, the Bureau discusses such topics as breed specialization, crossing of breeds, grading up, and in-breeding. Better feeding, discussed under care and management, is mentioned as an important means of reducing costs and increasing net returns from live stock. Methods of reducing mortality of live stock and of effectively controlling diseases and parasites are discussed. Other subjects include the administration of live stock laws, the importance of veterinary education, the inspection and adjustment of farm scales, the judging of live stock, meat inspection, and the value of meat in the diet.

The publication (81-MP) may be procured from the Office of Information, U. S. Department of Agriculture, Washington, D. C.

### Virginia to Hold Second Conference

The Department of Zoology and Animal Pathology, Virginia Polytechnic Institute, will offer a conference for graduate veterinarians during the week of January 19, 1931. Dr. I. D. Wilson, head of the Department, is arranging a very attractive program. President Hall will be one of the head-liners.

## EXISTING RELATIONS BETWEEN VETERINARIANS AND THE HUMANE ORGANIZATIONS\*

By W. A. YOUNG, *Boston, Mass.*

*The Animal Rescue League*

What are existing relations between these two groups, whose work covers similar ground? Are they good, bad, or indifferent? This is a question that has been forced upon my mind, many, many times, during the past few years, by remarks that people have made to me. Some of these people have been clients; some of them have been veterinarians; while others were active in humane work.

A short time ago I sent out a questionnaire to the principal humane societies in the United States; asking the following questions:

1. Do you employ any veterinarians; if so, how many, full or part time or on a call basis?
2. Do you feel that satisfactory relations exist between your local veterinarians and your society?
3. Do you feel that veterinarians could be used more advantageously by humane organizations?
4. Does your organization need additional veterinary services; if so, in what form?

Out of some 150 replies to these questions, I learned that 8 societies are using full-time veterinarians; 19 societies are using them on a part-time basis; at least 86 are using regularly assigned veterinarians, upon a call basis; while 14 societies are provided with free veterinary service by local practitioners. Ninety-three replied that relations with their local veterinarians were *satisfactory*, but 31 emphatically said they were most *unsatisfactory*.

In reply to the third question, 7 said no, and 134 said yes. Forty societies stated that they needed additional veterinary service, 25 organizations were using two or more veterinarians, either part-time or regularly, subject to call, and 7 organizations have veterinarians as executives.

This tells me that at least one-fourth of the societies are decidedly dissatisfied with their local practitioners and 95 per cent claim that veterinarians could be used to a better advantage.

Of course, the one question is: "What have we, as veterinarians, done, or what are we doing, to give such a mottled record? I wish to quote from some of the letters. First, I shall give you

\*Presented at the sixty-seventh annual meeting of the American Veterinary Medical Association, Los Angeles, Calif., August 26-29, 1930.

the words from some of the societies where conditions are *satisfactory*:

The relations between the veterinarians and our society are very cordial. We can call on them any time for emergency cases. We receive no fee for sick animals; if collected, it is turned over to the doctor.

We have two veterinarians. If we cannot get one, we call the other.

Yes, we employ veterinarians. We have one who cares for small animals and a second who attends to large animals. They both have their own hospitals and we pay for the individual cases they care for.

We employ 2 veterinarians at our own Dispensary from 3 p. m. to 6 p. m. daily, except Sunday. We have never heard of any opposition or protest to this work encroaching upon other veterinarians. We do not keep any sick or injured animals during convalescence, unless as a stray.

I do not see how a humane society can efficiently operate without the frequent assistance of a veterinarian. If we could afford the full time of an agent we would try to get a veterinarian for the position.

Most certainly we believe in veterinarians, and we have a free clinic at which two and sometimes three veterinarians give their time, freely. We, personally, believe in doing everything to help the veterinarian who has always been so kind to us.

If we are interviewed by the general dog-owners for veterinary service, we first try to ascertain from them if there is any particular veterinarian they prefer; if they have no choice and leave the matter in our hands, we make our selection from the field.

For the past few years our veterinary needs have been steadily decreasing, due to the fact that the automobile has replaced the horse, and the farmers located within our county realize that better dividends are paid them by caring for their animals in a humane manner.

There are very few humane organizations in the United States which could not use the services of veterinarians more advantageously than they are now using them and there are very few veterinarians who could not use contacts with the humane societies more advantageously. Much could be gained if the tolerant element in each group would make a sincere effort to work with, and understand, each other.

When the need of veterinary service comes to our notice, we make it a rule to advise the owner to consult a veterinarian and we leave it to the owner's judgment as to which veterinarian to consult.

Here is a unique one.

Yes,—we would like a travelling hospital—a truck that could visit different sections of the city, accompanied by a veterinarian to instruct in protection and care of animals.

Our Chief Veterinarian is secretary of the local veterinarians' association.

Our Chief Veterinarian is president of the local veterinarians' association.

You are doing a work most commendable by bringing this work to the attention of humane societies.

It just happens that we are fortunate in securing his services, as both he, the veterinarian, and his wife are humanitarians and we could have no humane society without them.

\* \* \* \* \*

Relations between local veterinarians and our society are very satisfactory, and we always see that one is employed when an animal needs attention.

\* \* \* \* \*

We have no paid veterinarians in our work but have splendid cooperation in the different departments by voluntary workers. These veterinarians have been of real service to this Society and our work in the animal department has been greatly enhanced by their services.

That group should make every veterinarian proud of his profession, but let us see what others have to say.

We need the employment of a good veterinarian at our animal shelter at all times. I may add further, that there is a good deal of personal jealousy among the veterinarians anent the Humane Society. It is hard to recommend a veterinarian without the others being hurt and offended. As you know, there are some veterinarians who handle the smaller animals better than the larger. Others are better surgeons, and so it is rather hard for a humane society when they have only the welfare of the animal at heart.

\* \* \* \* \*

Cannot find a "horse doctor" who will testify against owners of horses, no matter how bad the case.

\* \* \* \* \*

I feel that veterinarians might, at times, be less cold-hearted and more sympathetic. The leading veterinarian here referred to sentiment as "no good." Sympathy, in time of sickness or trouble to man or beast, is of great comfort.

\* \* \* \* \*

For three years we employed a man who acted as both agent and veterinarian, which was not a satisfactory arrangement. He was a splendid veterinarian and we paid him a good salary in order to keep a good veterinarian here. There was conflict sometimes between his private practice and humane work. Also, he was opposed to destroying animals which the Society thought best to put out of the way.

\* \* \* \* \*

Have never felt that satisfactory relations existed but hope for a better state of things with a new Superintendent.

\* \* \* \* \*

If real, sensible, conscientious veterinarians of courage and independence could be found, they could be of very great use. In cases of small animals this office favors a man who is not a veterinarian at all but who does seem to have the sympathy, insight, sense and conscience, most veterinarians seem to lack. (Statement made by a state official.)

\* \* \* \* \*

We have scores of complaints on these two doctors, falling down on work like mange, eczema, starving their boarders, etc. We have any amount of calls and all we can do is recommend these two, for the other two veterinarians here are out of the question. One is a dope fiend and both places are filthy.

\* \* \* \* \*

I have wondered whether more general employment of veterinarians by different humane interests might not create a more friendly feeling. As matters now stand, veterinarians get little pecuniary assistance from these societies. The larger societies employ veterinarians but the smaller ones do not often introduce veterinary work into their general plan and they can't be blamed, as veterinary service is not always necessary and is apt to be expensive. But, I do believe a great improvement would be forth-

coming if some effectual plan could be reached whereby the veterinary profession would depend upon animal protective societies for business, which would bring them in good pay.

\* \* \* \* \*

They also have expressed disapproval of our destroying so many animals. We cannot justly do anything else, in a heartless community, with dumb creatures that are sick, injured, vicious, diseased or cast-out. We would fail in our duty toward these helpless victims of man were we to prolong their suffering by attempting to cure them to send out to more misery. We regret that harmonious relations cannot be established between our organization and the doctors who are also trying to relieve animal suffering, but I find these conditions prevail elsewhere. We shall indeed be glad to hear of any suggestions that might restore a feeling of friendliness and cooperation among all those who are earnestly endeavoring to protect all defenseless dumb creatures.

\* \* \* \* \*

As a whole the veterinarians work with us but as you know there are always a few who "kick" but they are of the kick-kick kind and it cannot be changed, no matter how hard one may try.

\* \* \* \* \*

We find that our relations with the veterinary who has plenty of work to handle are friendly and I feel that if this Society were able to employ a veterinarian that our Small Animal Clinic would develop by leaps and bounds and that it would relieve much distress.

\* \* \* \* \*

From what experience I have had it seems to me that it is most difficult to find a veterinarian who understands small animals, though there is much improvement along these lines. Perhaps cats are the least understood of the small animals, though there are many flagrant breaches where dogs are concerned, too.

\* \* \* \* \*

At times I wish I understood more about the ailments of these little creatures for many times there seems such a lack of common sense used and I find the tendency is to overdose.

\* \* \* \* \*

While this man is not a veterinarian, he has learned from many years' experience a great deal concerning care and treatment of animals.

\* \* \* \* \*

Other veterinarians here have never assisted the Society nor shown any inclination to the welfare of the Society.

Help is better than sympathy.

\* \* \* \* \*

One that pertains to the unprofessional attitude on the part of one veterinarian.

\* \* \* \* \*

We do not have satisfactory relations with our veterinarians as neither of them are really fond of animals. They seem to be in the work for money only. We feel that veterinarians can be used to immense advantage if they are "A-Number One" in their work and really like animals.

\* \* \* \* \*

When I need a veterinarian I call the best and he responds—but refuses to work with our agent.

So, we can readily see that all is not quite what it should be between humane work and the veterinary profession. Naturally, some of the responsibility rests upon both sides of the argument, but you will note that the principal fault to find is with the lack of knowledge, coupled with some lack of sympathy. The sympathy that the bed-side physician extends to his patient is of

It just happens that we are fortunate in securing his services, as both he, the veterinarian, and his wife are humanitarians and we could have no humane society without them.

\* \* \* \* \*

Relations between local veterinarians and our society are very satisfactory, and we always see that one is employed when an animal needs attention.

\* \* \* \* \*

We have no paid veterinarians in our work but have splendid cooperation in the different departments by voluntary workers. These veterinarians have been of real service to this Society and our work in the animal department has been greatly enhanced by their services.

That group should make every veterinarian proud of his profession, but let us see what others have to say.

We need the employment of a good veterinarian at our animal shelter at all times. I may add further, that there is a good deal of personal jealousy among the veterinarians anent the Humane Society. It is hard to recommend a veterinarian without the others being hurt and offended. As you know, there are some veterinarians who handle the smaller animals better than the larger. Others are better surgeons, and so it is rather hard for a humane society when they have only the welfare of the animal at heart.

\* \* \* \* \*

Cannot find a "horse doctor" who will testify against owners of horses, no matter how bad the case.

\* \* \* \* \*

I feel that veterinarians might, at times, be less cold-hearted and more sympathetic. The leading veterinarian here referred to sentiment as "no good." Sympathy, in time of sickness or trouble to man or beast, is of great comfort.

\* \* \* \* \*

For three years we employed a man who acted as both agent and veterinarian, which was not a satisfactory arrangement. He was a splendid veterinarian and we paid him a good salary in order to keep a good veterinarian here. There was conflict sometimes between his private practice and humane work. Also, he was opposed to destroying animals which the Society thought best to put out of the way.

\* \* \* \* \*

Have never felt that satisfactory relations existed but hope for a better state of things with a new Superintendent.

\* \* \* \* \*

If real, sensible, conscientious veterinarians of courage and independence could be found, they could be of very great use. In cases of small animals this office favors a man who is not a veterinarian at all-but who does seem to have the sympathy, insight, sense and conscience, most veterinarians seem to lack. (Statement made by a state official.)

\* \* \* \* \*

We have scores of complaints on these two doctors, falling down on work like mange, eczema, starving their boarders, etc. We have any amount of calls and all we can do is recommend these two, for the other two veterinarians here are out of the question. One is a dope fiend and both places are filthy.

\* \* \* \* \*

I have wondered whether more general employment of veterinarians by different humane interests might not create a more friendly feeling. As matters now stand, veterinarians get little pecuniary assistance from these societies. The larger societies employ veterinarians but the smaller ones do not often introduce veterinary work into their general plan and they can't be blamed, as veterinary service is not always necessary and is apt to be expensive. But, I do believe a great improvement would be forth-

coming if some effectual plan could be reached whereby the veterinary profession would depend upon animal protective societies for business, which would bring them in good pay.

They also have expressed disapproval of our destroying so many animals. We cannot justly do anything else, in a heartless community, with dumb creatures that are sick, injured, vicious, diseased or cast-out. We would fail in our duty toward these helpless victims of man were we to prolong their suffering by attempting to cure them to send out to more misery. We regret that harmonious relations cannot be established between our organization and the doctors who are also trying to relieve animal suffering, but I find these conditions prevail elsewhere. We shall indeed be glad to hear of any suggestions that might restore a feeling of friendliness and cooperation among all those who are earnestly endeavoring to protect all defenseless dumb creatures.

As a whole the veterinarians work with us but as you know there are always a few who "kick" but they are of the kick-kick kind and it cannot be changed, no matter how hard one may try.

We find that our relations with the veterinary who has plenty of work to handle are friendly and I feel that if this Society were able to employ a veterinarian that our Small Animal Clinic would develop by leaps and bounds and that it would relieve much distress.

From what experience I have had it seems to me that it is most difficult to find a veterinarian who understands small animals, though there is much improvement along these lines. Perhaps cats are the least understood of the small animals, though there are many flagrant breaches where dogs are concerned, too.

At times I wish I understood more about the ailments of these little creatures for many times there seems such a lack of common sense used and I find the tendency is to overdose.

While this man is not a veterinarian, he has learned from many years' experience a great deal concerning care and treatment of animals.

Other veterinarians here have never assisted the Society nor shown any inclination to the welfare of the Society.

Help is better than sympathy.

One that pertains to the unprofessional attitude on the part of one veterinarian.

We do not have satisfactory relations with our veterinarians as neither of them are really fond of animals. They seem to be in the work for money only. We feel that veterinarians can be used to immense advantage if they are "A-Number One" in their work and really like animals.

When I need a veterinarian I call the best and he responds—but refuses to work with our agent.

So, we can readily see that all is not quite what it should be between humane work and the veterinary profession. Naturally, some of the responsibility rests upon both sides of the argument, but you will note that the principal fault to find is with the lack of knowledge, coupled with some lack of sympathy. The sympathy that the bed-side physician extends to his patient is of

untold value and I believe that not only sympathy, but a real love for animals, should be inherent traits of every veterinarian. Without these two qualifications, I cannot see how anyone could ever hope to succeed in veterinary work; especially where the pet animal is concerned.

A few years ago, when the large animals composed the greater part of the veterinarian's work, he was dealing largely with commercial animals, but today our pet cats and dogs, to say nothing of the show cats and dogs, have changed us from commercial veterinarians to animal physicians.

I was born and raised on a middle western farm and upon graduation from college practiced in the Corn Belt, where I had the privilege of seeing our farm animals under a wide variety of conditions in several states. Later, I was employed upon a call basis by a state humane society, while for the past five years I have been devoting my full time to the work of the Animal Rescue League, at Boston, Mass. Consequently, I feel that I can look upon this question from all angles.

Now, just what are humane organizations? To quote from the "Proposed Code of Ethics for Humane Societies and Veterinarians," formulated at our meetings in New York City:

Veterinarians and humane societies exist by right of public approval, legal authorization and from necessity. Each has its appointed task in the field of animal welfare; the veterinarian diagnosing and prescribing for, treating and conserving the life and well-being of the animals; humane societies working for the protection, relief and comfort of the animal from the humane standpoint.

In other words we veterinarians represent the professional side of animal relief. The humane societies represent the laity, organized for animal relief. There is so much in common that I cannot see how either could succeed without the other. Certainly, veterinarians can be of aid to humane societies in advising the proper care, handling and housing of animals, assist professionally in prosecutions when needed, and minister to the needs of the sick and injured. In turn, veterinarians would do well to have the good-will and support of their local, yes, all humane organizations.

Do you gentlemen realize that the humane organizations throughout the country have been markedly responsible for the growth and popularity of the veterinary profession? Why? Because they are continually pounding away at the public, demanding that people provide adequate care, shelter, food and medical attention for their animals, whether commercial beasts

or pets. Each year thousands upon thousands, yes, hundreds of thousands of pieces of literature, urging and commanding the public to better care for the animal world are sent broadcast from many of the humane organizations in the United States.

I, personally, know that the Animal Rescue League of Boston sends out approximately 100,000 pieces of humane literature, annually. This number, I am sure, is exceeded by some of the other societies, while practically every humane organization issues one or more publication urging better care for the animals and invariably these publications say: "When your animal is sick or injured, consult your veterinarian."

Do you realize how much veterinary advertisement this amounts to, without one penny of cost to the profession? I believe you will find some of the largest private veterinary hospitals in the cities where the humane societies are forcefully active. That, to me, is conclusive proof that the efforts of the humane society are reflected in financial returns to the veterinary profession. As I read over the letters from the various humane societies, this same feeling was reflected throughout. I do not say this to belittle the tireless efforts put forth by members of the profession, our veterinary schools and our research workers; true, they have done yeoman work but, without advertising, it would have been little known.

We must admit that we, as veterinarians, have not yet sold our services to the public 100 per cent. The article, "The Blind Leading the Blind," on page 10 in the *North American Veterinarian* for July, 1930, and the quotation on page 45, from the *American Kennel Gazette*, and along with the dastardly large amount of proprietary remedies that are on the market today and then crammed down the throats of well dogs, to say nothing of the sick and suffering ones, is ample proof that the veterinary profession needs every ally possible to gain the prestige it rightfully should enjoy.

I am wondering if it would be well to put forth an effort to cement the feelings between humane work and your and my chosen profession. Where should we start? Could there be any better place than in our veterinary schools? Young men as students have open minds at that time and have not become set in their life practices. I sincerely believe that if a well-chosen individual would, at least once annually, pay a visit to our veterinary schools, where he could meet both the student body and staff and impart to them the needs and desires of the humane

movement, that it would go far toward eliminating such statements as I have read to you from these letters. It would also correctly inform the veterinary student and instruct the veterinarian as to just what a humane society hopes to accomplish and show the real good of our organizations. Starting with this background, the graduating veterinarian would go out into practice with an understanding that many of our practitioners lack today. Undoubtedly, someone could attend and participate in some of our state association meetings and further along this same cause.

To me, there is no more logical humane representative than the veterinarian, as he has been trained scientifically and professionally to relieve the suffering of the animal world. In his daily contact with his patients and clients he could leave behind him the lesson of kindness, rather than a statement of failure, filth, dirt, etc., that we are wont to hear from some quarters.

During the past few years I have used a student or a recent graduate to assist me during the summer time and I have noticed that these young men soon picked up the general idea of our work and I shall quote from a letter sent me from one of the young men after his summer's work was over:

I sure believe humane education in veterinary schools would be a wonderful thing and a great place for the humane society to do some good work. I have paid more attention to such things this fall than usual and there sure are plenty of instances where a little knowledge along such lines would be a lot easier on the animal and I think the quicker such work is started the better. The man who does it, however, would have to be a real diplomat because of the natural antagonism of the veterinarian toward humane societies. It could be done though, I am sure, and it would be a great thing.

This question is not altogether one of relief of acute pain, say by anesthesia. This is part of it and part is just how we handle our animals. Whether we leave the impression of kindness or roughness. Whether we should treat or advise destruction in apparently incurable cases. Whether we seem interested in the animal's welfare or the fee. There is an echo today against repeated cesarean operations, where the type or breed of the dog is known to prevent normal delivery. Whether we are using available equipment to make our work easier and less painful for the patient or do we just stumble along the same old path? That is just one step farther along the path of progress to place the veterinary profession on a higher plane, whereby we would be recognized as animal physicians and not just "horse doctors."

## THE INCIDENCE OF *B. ABORTUS* AGGLUTININS IN HUMAN SERA

By R. A. WHITING, San Diego, California

Director, Zoological Hospital and Research Institute, of the  
Zoological Society of San Diego

A study has been made of 1565 specimens of fresh human sera for agglutinins for *B. abortus*. The sera were obtained between February and June, 1930, from the general routine of patients in federal, county or private hospitals, and from the County Health Department. The majority of the patients were urban residents who varied in age from babies to sixty-five years. Some were under hospital care, examination, operation or treatment for various causes, while others were employed in handling dairy products.

The *B. abortus* antigen used was prepared by the University of California, at Berkeley, and was subsequently diluted with phenolized salt solution to a density of 6 mm. of the Gates apparatus. It was uniform throughout the tests. An additional control of the antigen was furnished by several hundred tests of positive and negative bovine and porcine sera.

Complete or partial agglutination in dilutions of 1:20 or higher was obtained in the sera of seventy-three individuals, or 4.6 per cent of the total tests. Complete agglutination in dilutions of 1:100 or higher occurred in the sera of twenty-four individuals, practically one-third of the reacting samples, or 1.5 per cent of the total tests. These individuals were considered as positive reactors. They varied in age from five to sixty-five years. The majority were females. A baby a few weeks of age gave an incomplete reaction in a dilution of 1:20; the mother's serum was negative.

Clinically none of these twenty-four cases were considered primarily as undulant fever patients. A few were harboring an additional infection, either acute or chronic. Several had failed to agglutinate typhoid or paratyphoid antigen and were later tested for *B. abortus* infection and gave high reaction titres. Some of the *B. abortus*-reacting patients have been ailing from eight to twelve months and one traces his infection to a bovine

\*Presented at the sixty-seventh annual meeting of the American Veterinary Medical Association, Los Angeles, Calif., August 26-29, 1930.

source of more than eighteen months duration. Eighteen of the twenty-four reactors did not give a history of personal contact with cattle or swine. Five men had contacts with dairy cattle and one man gave a history of probable infection tracing to a Middle West farm, where a brother also has been ill. In the latter case a diagnosis of undulant fever of the porcine type had been made. Subsequently the dairy herd on this farm had been tested and found to be negative for *B. abortus*; however, considerable breeding trouble in swine has occurred during the past two years.

In attempting to gain some information as to the local sources of infection, more than seventy goats have been tested with entirely negative results. Similar tests of dairy cattle and breeding hogs show a considerable prevalence of Brucella infection. This is confirmed by clinical evidence of abortion.

#### DISCUSSION

**DR. E. A. BRUCE:** I was rather interested in the fact that no reaction was found in goats. I think we have to accept the fact that we do get an undulant fever in man from *B. abortus* but it seems very extraordinary in view of the wide distribution of the organism that we do not get more cases.

I have, upon more than one occasion, obtained reactions in goats and when I say "reactions," I mean 1:500, or even higher. I have obtained as high as 1:2000 with *B. abortus* antigen. Most of these cases occurred on Vancouver Island. Being on an island, they are more or less easily followed up from the standpoint of human infection. Several years ago, I first ran across them and since that time I have made it a point to inquire from my medical friends and from the pathologists in the hospitals in the section concerned, and they never had, as far as I know, and have not had, up to the present time, any cases at all.

Now, the point is this: Assuming that *B. abortus* is pathogenic for man and that it is very closely allied to *B. melitensis*, it seems to me it is rather extraordinary that in a district where you have infected goats and the goats' milk is being used extensively, that you don't get human cases. I mention that as a matter of interest. I am not trying to argue that there is no such thing as a human case.

**DR. J. TRAUM:** The question of infection in goats is one that has been puzzling us and you will see from Dr. Haring's presentation of what we are trying to do in California that we are making some effort to find what is present in goats and what is present in other animals and whether or not there is some change when transferred from one to the other. We are at a loss sometimes to know what to think of goats. We have tested lots of samples of goats' blood and the Hooper Foundation has tested more than we have. We have had some reactors but we have not been able to follow them up. The Hooper Foundation is following up some of their reacting goats. Some are "shedder" goats. The work has not gone far enough to determine the nature and classification of the organism present in the goats. But it has also occurred to me, especially in relation to what Dr. Bruce has said in regard to the lack of infection in the presence of infected goats, that perhaps goats may become infected with the bovine strain, and if they do and if the strain does not change in the goat's body, there is no reason to believe there should be more infection resulting from goats eliminating strains which are bovine strains. That is one of the things that is concerning us, and we hope to have an answer to that question sometime.

## FORMALDEHYDE AND MERCUCROCHROME IN THE TREATMENT OF RABBITS INFECTED WITH BRUCELLA ABORTUS

By RONALD GWATKIN, *Toronto, Ont.*

*Department of Veterinary Science, Ontario Research  
Foundation.*

Rabbits were selected for testing the action of formalin and mercurochrome as being more convenient for the introduction of the desired fluids into the circulation. Intravenous injection in guinea pigs is difficult, and it was desired to avoid injecting these fluids directly into the heart. However, as test animals rabbits were not satisfactory, tending to throw off the infection too rapidly, as indicated by subsequent bacteriological examination. Agglutinins decrease very rapidly when the stimulus to their production is not present and on the agglutinin titre alone we believe that the substances employed exerted no effect on *Br. abortus* in the body.

### INTRAVENOUS INJECTION OF FORMALIN

A rabbit weighing 3000 grams was given an intravenous injection of 5 cc of a 1 per cent solution of C. P. formalin in salt solution. Another rabbit was given the same quantity of a 0.25 per cent solution. Neither showed any ill effects. A couple of days later, the first rabbit was given 5 cc of a 2 per cent solution of formalin. Urine was collected and was tested by Dr. A. D. Barbour for the presence of H. CHO by the phloroglycin, HCl-ferric chlorid and ammoniacal-silver nitrate tests. No trace of H. CHO was reported. This rabbit again showed no ill effects from the injection. Five cc of a 6 per cent solution produced violent convulsions and almost immediate death. The right auricle was distended with blood and the ventricles were empty. Another rabbit was given 4.5 cc of 3 per cent solution (based on 5 cc per 3000 grams of body weight.) It was uneasy for a few moments after the injection was completed and sat huddled up for an hour, after which it again appeared normal. A rabbit that we had commenced to inject with a 4 per cent solution died before more than 0.5 cc had been injected. A 3 per cent solution appeared to be the strongest that might be employed with any

source of more than eighteen months duration. Eighteen of the twenty-four reactors did not give a history of personal contact with cattle or swine. Five men had contacts with dairy cattle and one man gave a history of probable infection tracing to a Middle West farm, where a brother also has been ill. In the latter case a diagnosis of undulant fever of the porcine type had been made. Subsequently the dairy herd on this farm had been tested and found to be negative for *B. abortus*; however, considerable breeding trouble in swine has occurred during the past two years.

In attempting to gain some information as to the local sources of infection, more than seventy goats have been tested with entirely negative results. Similar tests of dairy cattle and breeding hogs show a considerable prevalence of Brucella infection. This is confirmed by clinical evidence of abortion.

#### DISCUSSION

DR. E. A. BRUCE: I was rather interested in the fact that no reaction was found in goats. I think we have to accept the fact that we do get an undulant fever in man from *B. abortus* but it seems very extraordinary in view of the wide distribution of the organism that we do not get more cases.

I have, upon more than one occasion, obtained reactions in goats and when I say "reactions," I mean 1:500, or even higher. I have obtained as high as 1:2000 with *B. abortus* antigen. Most of these cases occurred on Vancouver Island. Being on an island, they are more or less easily followed up from the standpoint of human infection. Several years ago, I first ran across them and since that time I have made it a point to inquire from my medical friends and from the pathologists in the hospitals in the section concerned, and they never had, as far as I know, and have not had, up to the present time, any cases at all.

Now, the point is this: Assuming that *B. abortus* is pathogenic for man and that it is very closely allied to *B. melitensis*, it seems to me it is rather extraordinary that in a district where you have infected goats and the goats' milk is being used extensively, that you don't get human cases. I mention that as a matter of interest. I am not trying to argue that there is no such thing as a human case.

DR. J. TRAUM: The question of infection in goats is one that has been puzzling us and you will see from Dr. Haring's presentation of what we are trying to do in California that we are making some effort to find what is present in goats and what is present in other animals and whether or not there is some change when transferred from one to the other. We are at a loss sometimes to know what to think of goats. We have tested lots of samples of goats' blood and the Hooper Foundation has tested more than we have. We have had some reactors but we have not been able to follow them up. The Hooper Foundation is following up some of their reacting goats. Some are "shedder" goats. The work has not gone far enough to determine the nature and classification of the organism present in the goats. But it has also occurred to me, especially in relation to what Dr. Bruce has said in regard to the lack of infection in the presence of infected goats, that perhaps goats may become infected with the bovine strain, and if they do and if the strain does not change in the goat's body, there is no reason to believe there should be more infection resulting from goats eliminating strains which are bovine strains. That is one of the things that is concerning us, and we hope to have an answer to that question sometime.

## FORMALDEHYDE AND MERCUCROCHROME IN THE TREATMENT OF RABBITS INFECTED WITH BRUCELLA ABORTUS

By RONALD GWATKIN, *Toronto, Ont.*

*Department of Veterinary Science, Ontario Research  
Foundation.*

Rabbits were selected for testing the action of formalin and mercurochrome as being more convenient for the introduction of the desired fluids into the circulation. Intravenous injection in guinea pigs is difficult, and it was desired to avoid injecting these fluids directly into the heart. However, as test animals rabbits were not satisfactory, tending to throw off the infection too rapidly, as indicated by subsequent bacteriological examination. Agglutinins decrease very rapidly when the stimulus to their production is not present and on the agglutinin titre alone we believe that the substances employed exerted no effect on *Br. abortus* in the body.

### INTRAVENOUS INJECTION OF FORMALIN

A rabbit weighing 3000 grams was given an intravenous injection of 5 cc of a 1 per cent solution of C. P. formalin in salt solution. Another rabbit was given the same quantity of a 0.25 per cent solution. Neither showed any ill effects. A couple of days later, the first rabbit was given 5 cc of a 2 per cent solution of formalin. Urine was collected and was tested by Dr. A. D. Barbour for the presence of H. CHO by the phloroglycin, HCl-ferric chlorid and ammoniacal-silver nitrate tests. No trace of H. CHO was reported. This rabbit again showed no ill effects from the injection. Five cc of a 6 per cent solution produced violent convulsions and almost immediate death. The right auricle was distended with blood and the ventricles were empty. Another rabbit was given 4.5 cc of 3 per cent solution (based on 5 cc per 3000 grams of body weight.) It was uneasy for a few moments after the injection was completed and sat huddled up for an hour, after which it again appeared normal. A rabbit that we had commenced to inject with a 4 per cent solution died before more than 0.5 cc had been injected. A 3 per cent solution appeared to be the strongest that might be employed with any

degree of safety. We estimated that this would give an approximate concentration of H. CHO in the blood of 0.03 per cent.

Eight rabbits were infected by an intravenous injection of 1.0 cc of a suspension of *Br. abortus* prepared by washing off one slant of a 24-hour growth in 20 cc of saline. These rabbits were negative at this time. They were bled and tested weekly in dilutions of from 1:25 to 1:10,000, commencing two weeks after the infecting dose. Fifteen days after the infecting dose, the four rabbits with the highest titres (3, 5, 6 and 7), which were 1:2500, 1:5000, 1:10,000 and 1:10,000, respectively, were given an intravenous injection of 3 per cent formalin in saline (3 cc Baker's formalin C. P. + 97 cc saline) on the basis of 5 cc per 3000 grams of body weight. All showed some distress immediately following the injection. Rabbit 6 had a violent convulsive spasm, stretched out, and appeared to be dying. He was on his feet again in fifteen minutes. The others appeared uneasy for a short time but soon regained their normal manner. The agglutinin titres of these animals, before and after the injection of formalin, are given in table I.

TABLE I—Agglutinin titres of rabbits before and after injection of formalin

RABBIT	APRIL 11	APRIL 25		MAY 2	MAY 9	MAY 16	MAY 20	MAY 29
1	Negative	1:1000		1:1000	1:500	1:500		1:500
2	Negative	1:1000		1:1000	1:500	1:250		1:250
*3	Negative	1:2500		1:1000	1:1000	1:500	1:500	1:500
4	Negative	1:1000		1:1000	1:500	1:250		1:100
*5	Negative	1:5000		1:1000	1:1000	1:1000	1:1000	1:500
*6	Negative	1:10,000		1:1000	1:1000	1:500	1:50	1:500
*7	Negative	1:10,000		1:1000	1:1000	1:1000	1:1000	1:1000
8	Negative	1:1000		1:1000	1:1000	1:250		1:1000

\*Received injection of formalin

The titres of the four rabbits that had received the injection of formalin dropped to 1:1000 a week later. The controls remained at 1:1000. The next two weeks did not show a continuation of the drop in all the treated animals. At this time rabbits 3 and 6 had a titre of 1:500 and rabbits 5 and 7 a titre of 1:1000. Rabbits 3 and 5 were now given the same injection of formalin as formerly and all four were bled again three days after the injection. It was thought that the first decline in titre may have been due to some interference with existing agglutinins in the blood. This was evidently not the case, as the second injection produced no drop in the titre of the treated rabbits but one of the controls had dropped to 1:100. We therefore felt justified

in concluding that the sudden drop in titre was due to natural causes and not to the treatment administered.

These rabbits were killed 38 days after the infecting dose. Neither controls nor treated animals showed lesions nor were we able to recover *Br. abortus* from the spleen or liver on culture. The only basis on which the results of the formalin injection might be judged, therefore, was the agglutinin titre and, as seen in the table, the treated animals were as high or higher than the controls. The production of agglutinins did not appear to have been influenced by the injection of formalin.

#### INTRAVENOUS INJECTION OF MERCUCROCHROME

Four rabbits were injected with an infecting dose of *Br. abortus*. One month later, two were injected with 1 per cent mercurochrome solution intravenously at the rate of 0.4 cc per 1000 grams of body weight. No marked drop in agglutinins occurred in the treated animals, which after a month were higher than the two controls. All four animals had a titre of 1:1000 at time of treatment. The treated animals dropped to 1:250 and 1:500 and the controls to 1:10 and 1:500. No ill effects were manifested by the injected rabbits.

#### SUMMARY

Five cc of a 3 per cent solution of formalin per 3000 grams of body weight appeared to be the maximum intravenous dosage for rabbits.

There were no indications that the formalin had any beneficial action in controlling *Br. abortus* infection as judged by the agglutinin titre.

Intravenous injection of a 1 per cent solution of mercurochrome at the rate of 0.4 cc per 1000 grams of body weight produced no ill effects but had no apparent influence on the infection as judged by the agglutinin titre.

Rabbits were not so suitable for testing purposes as guinea pigs, as the organism was not recovered from them on culture nor were there any lesions. A culture had been employed that produced well-marked lesions in guinea pigs by the same mode of infection.

#### ACKNOWLEDGMENT

We are indebted to Dr. A. D. Barbour, of the Ontario Research Foundation, for his kindness in carrying out urine analyses and his interest in this work.

## THE FUTURE OF THE VETERINARY PROFESSION\*

By MAURICE C. HALL, Washington, D. C.

*President, American Veterinary Medical Association*

A profession may achieve its potential development by the haphazard method of allowing events to take their course, or it may achieve it by the conscious formulation of a program, by taking stock of its assets and investing them for the benefit of the profession, by consciously realizing its relations to other groups and to national affairs, and by a deliberate action to achieve its objectives. For the most part the American veterinary profession has allowed events to shape its destiny, and has had only partial programs looking towards limited objectives not visibly or definitely associated with a large and coordinated program. It is not too early to formulate and discuss at this time a larger program, not with the expectation of its realization within a year or in the near future, but with the hope that whatever there may be of merit in the program will commend itself to the good judgment of at least part of the profession, and that ultimately we may obtain for the profession a better status than it now has and at an earlier date than could be the case if no program were proposed.

### OUR PRESENT STATUS

It is reasonably evident that the veterinary profession does not have at this time the status it might have. Compared with the physician and lawyer, the veterinarian does not have an equivalent professional, social or financial status. The veterinarian is called into action within a restricted field in which he has an established status, but in many fields involving diseases of animals he is given little or no attention, nor does he participate in the larger affairs of the state or nation as he should. There are veterinarians who feel called on to apologize for being a veterinarian, and some who conceal the fact that they are veterinarians whenever possible; practically speaking, physicians and lawyers do not do these things, even though they are openly regretful of the shortcomings of their brethren or of the limitations in the practice of medicine or law. The income of the physician and lawyer in private practice or in the service of the

\*An abstract of this paper was presented before the annual meeting of the Pennsylvania State Veterinary Medical Association, Philadelphia, Pa., October 23-24, 1930.

city, state and nation is greater than that of the veterinarian in a comparable status.

If there was a sound reason, inherent in the nature of things, why this should be so, we could concur in it even if we regretted it, but there is no such reason. It is true that physicians have a longer period of education, most medical schools demanding two years of college work in addition to the four years in the medical school, and also requiring at least one year as interne. On the other hand, lawyers frequently have much less training, and law has been called "the unlearned profession."

The science of veterinary medicine is precisely as scientific as the science of human medicine; law has not attained in theory or practice any status which a scientist could recognize as scientific, nor will it until psychology, medicine and other sciences lay for it a foundation that hardly exists at the present time. Veterinary medicine is not only as difficult as human medicine; outside of such fields as mental and nervous diseases, it is more difficult. The physician must know the anatomy, physiology and responses of one animal—man; the veterinarian must know these things for many kinds of animals and in the future must qualify as a zoologist and medical man. Veterinary medicine is intrinsically as dignified as human medicine. Any man who does well a service to others has a dignified status if he realizes its dignity, and the veterinarian himself makes his profession and practice a dignified affair or something less than dignified. In actual practice in real life, the writer believes, from a wide acquaintance among veterinarians and physicians, that the average veterinarian is as sound, practical and efficient as the average physician.

In this matter the veterinarian has suffered from an inferiority complex. He still remembers too vividly the old days of the "hoss doctor" in the livery stable. He still refers to his "competitor" instead of to his "colleague." It is time to forget both of these things.

#### AN IMPROVED PSYCHOLOGY

Our psychology in its relation to our profession and our colleagues must be taken into consideration if we are to realize the goal of a better status. We must have a higher appreciation of our profession and of its possibilities. Not only that, but we must have the desire and the determination to do our individual part to realize those possibilities. The bulk of that work will

fall inevitably upon the small minority who are always responsible for progress of any sort. It has been said that youth and old age are agreed on one thing—that all is not well with the world; the difference is that youth thinks that something might be done about it. The veterinarian who is still intellectually young will believe that something might be done for the veterinary profession. Those who are old, cautious, hopeless and despondent, the ones who do not attend veterinary meetings, who do not read the veterinary journals, will not agree with this. They will stand by and criticise or despair of results. Such persons can be ignored at this time. Most of them will enlist later.

#### LET'S IMAGINE

Most of us are devoid of imagination. We see what is and are too easily satisfied with it. Imagination is the quality of the builder and the artist. It is the ability to visualize desirable things which do not exist and is the father of the desire to create these desirable and non-existent things. It prevents us from being satisfied, and people who are satisfied lack imagination. Such people are commonly regarded as the brakes which keep imaginative persons from rushing into disaster. Certainly they are the brakes on the wheels of progress. They see all the objections to a line of action, and if there are none, they create them. They lie prone in the path, and because they are prone they are hard to move. In engineering matters it is bad practice to play the motor against the brakes; in human affairs it appears necessary to do just this thing. In the veterinary profession we need motors at this time; we have plenty of brakes and a sufficient load of neutral material.

#### HELPING THE OTHER MAN

One of the surest and soundest ways of benefiting the profession, and thereby realizing our own desires, is to lose no opportunity to assist other veterinarians and veterinary groups other than our own. In the matter of credit for accomplishment, it should be evident that to praise ourselves or our own group to others is to take a position subject to the charge of prejudice whether prejudice is there or not. The strategically strong position is to give all possible credit to other men and other groups. By and large, people are not unappreciative of recognition and courtesy, and in a world of barter and exchange, most of us will continue to repay friendship with friendship, courtesy with courtesy, and assistance with assistance.

In actual practice this means that the man in the Bureau of Animal Industry should lose no opportunity to pass to the state veterinarian, the state college, university or experiment station, the practitioner, or any other worker, all credits that these men can utilize for support within the state. Most of these credits are of a sort that these men can capitalize and the Bureau cannot. In turn the Bureau men can depend on these men for cooperation and aid of a sort that the Bureau needs and can use. If it be objected that this is only a form of selfishness, we may say that according to psychologists all our acts are selfish, and according to this reasoning, you can't beat the game. If a man stands by and allows a child to die in a burning house, he is selfish because he is afraid of being burnt. If he goes after the child it is because it hurts him worse to see a child die. So we may elect to be selfish in practicing courtesy and cooperation for the benefit of the profession, rather than to be selfish in a grab for credits and immediate personal benefit. The difference is that between a far-sighted policy and a short-sighted policy.

#### OUR ALLIES

It is not sufficient that the veterinarian merely utilize his opportunities to push the interests of other veterinarians and other veterinary groups. We have a similar relation to a number of natural and valuable allies. In one direction we are linked, by our relations to live stock, with the farmer and the stockman; in another direction we are linked, by our interest in medicine, to the physician; in another direction we are linked, by an interest in disease of game animals and fish, to the sportsman and fisherman; in another direction to the scientific groups of zoologists, chemists, physiologists and others; and in another direction, by our relations with live stock, poultry, game and other things, to a public which eats meat, hunts, fishes and shares our mutual interests as citizens.

As in our relations as veterinarians to veterinarians, there is the necessity for our exchanging certain *quid pro quo's* with these groups. The veterinarian renders invaluable service to the farmer and stockman in the protection of their live stock from disease. That service is not infrequently of a value far in excess of its cost to the farmer and stockman, and these men are not unappreciative of the fact. They are in a position to assist the veterinarians in many ways, and have often done so. That they do not do more is largely because the veterinarian has

lacked a definite program and a precise knowledge of what he wanted. Certainly the farmer and stockman will support a program for a better veterinary profession, since a better profession can render him better service and more service.

The relation of the veterinarian to the physician is one which inevitably follows from their mutual interest in the subject of medicine. It is amazing that there is so little active recognition of our mutual interest. Certain men in both professions maintain contacts here and there; perhaps the same number or a few more read the journals of both professions. Every veterinarian who is interested in the progress of his profession should endeavor to make and maintain contacts with physicians. The present flow of knowledge from the field of human medicine to the field of veterinary medicine, and in the reverse direction, should be increased and accelerated.

It is obvious enough that much of our current veterinary practice comes from current practice in human medicine. It is equally true that not a little of current practice in human medicine comes from the field of veterinary medicine. One must keep in mind in this connection that an experiment on animals, be they guinea pigs or dogs, is a phase of veterinary medicine, and that the physician carrying out this experiment is entering the field of veterinary medicine. In this important work the veterinarian can often render great service to the physician. Many instances come to our attention of misdirected procedures and unsound conclusions by physicians uninformed as to the peculiarities in the anatomy, physiology, or responses of the animals with which they worked. The veterinarian can be a valuable counselor to the public health officer in matters in which the veterinarian has special training and ability. In turn, the physician can do much to promote the recognition of the veterinarian who is competent and of the veterinary profession he represents. The progress of the profession will be largely a progress of individuals, and every step forward by a veterinarian advances the front line and the relative position of all.

There is at present a rapidly growing field of work in diseases of wild animals, game birds and fish. This is a field in which the veterinarian should have a commanding position, and it is a field he is neglecting as he neglected sheep and swine practice in the days when horse practice absorbed his attention. Sportsmen are turning to the zoologist, bacteriologist and others to solve their problems in diseases of game. Apparently they are

unaware that veterinarians are interested and informed, and veterinarians are ignoring these developments precisely as though they were uninterested and uninformed.

This is a serious error on the part of the veterinarian. The study of diseases of wild animals is a fascinating field and one for which the veterinarian is especially qualified by training and experience. Characteristically the veterinarian is an out-of-door man, usually a hunter or fisherman, and interested in the food habits of game. The sportsman is his natural friend and ally. Both have the mutual interest in horses, dogs, hunting, fishing, and the out-of-door, powerful factors in the creation of good fellowship and friendship. Some of the work which a few veterinarians have done in the control of diseases of game has made a favorable impression on the few sportsmen who know of it, but there are only a few who do know of it. These sportsmen are not only good fellows; they are often important and influential men. We should study their problems, take a greater interest in their fields, and cultivate their friendship. They are in a position to recognize and appreciate good work in the solution of problems that demand a knowledge of medicine and of game and game habits, and the ability to tackle difficult tasks in the open and carry them out.

It is scarcely necessary to say that a science of medicine would have intimate relations with all of the biological sciences and with some others. It does appear to be necessary to suggest what we might do about it. For one thing, if there is in the vicinity of the veterinarian an office of the Biological Survey, the Forest Service, the National Park Service, the Bureau of Fisheries, or any other federal agency dealing with animals, make the acquaintance of its staff. You will find them worth knowing. Probably you can do something for them, and perhaps they can do something for you. If there is a college in your vicinity, take your questions in chemistry, zoology or other sciences to the faculty members in charge of these subjects. If you are not received courteously or welcomed, it will not be because you are a veterinarian.

Finally the veterinarian has an unappreciated relation to the public. Matters which concern the health of animals concern us. The existence of a disease in our community or state or country concerns us; a feed shortage concerns us; new developments in the live stock industry concern us. We should cultivate the habit of noticing our relation to these things, and of asking our-

selves whether there is any action which we should take, either as individuals or through our local, state or national associations. In other words, we should think not only as individuals about our individual problems, but as citizens and as members of a far-reaching profession. We should think about the large public affairs. We should think not only in limited terms, but in terms of national conduct. If we think fast we may help by timely counsel to direct action on national problems; if we think slowly we may later help to correct errors; if we don't think at all we are beyond helping or help.

It is hardly necessary to point out the necessity for public support of the veterinary profession. Propagandists with axes to grind constantly play for the public support which they need to mature their schemes. On the other hand, public support is equally essential to men and groups having legitimate objects in view. If the veterinarian is to have professional and social recognition in adequate measure, he must have public recognition. All the veterinarian needs or desires is a fair appreciation of his ability and his services.

Social recognition, after all, is rather a personal matter which the individual veterinarian will more or less obtain for himself in the measure to which he is entitled to it. It is largely determined by congeniality. The man who thinks and expresses banal thoughts will naturally drift to such groups and will be restricted to them. Thinking persons are welcomed among persons who think. People who speak good English will continue to look askance at persons who seem ignorant of grammar and good usage, but one need not go back to school to learn to use good English. Social recognition is a privilege, not a right. Like kissing, it goes by favor. The veterinarian can improve his social status more surely than he can his professional and economic status, since it is a matter of individual action and lies in his own hands.

#### THE BUREAU OF ANIMAL INDUSTRY

As regards the professional and economic status of the American veterinarian, one must recognize that the Bureau of Animal Industry, as the largest coordinated group of veterinarians in the profession, occupies a strategically important position in determining the status of the profession. The individual veterinarian in other fields will inevitably compare himself with Bureau men, and employers of veterinarians will consider what

the Bureau might offer one way or another in competition for the man they wish to employ. The sheer bulk of the Bureau is such that a move forward and upward by the Bureau advances a large group of men and moves the entire profession forward, while a backward step is proportionately harmful. It is the one large group in the country which can be moved as a unit throughout the country. For these reasons the Bureau should be a matter of interest and concern to all American veterinarians and to the A. V. M. A.

It is hardly necessary to say that the Bureau of Animal Industry has a fine record of achievement and is probably the most efficient large group of government veterinarians in the world. All that has been said before by many persons, including the present writer. What we are concerned with now is the future program of the veterinary profession, including the future of the Bureau. The one sure thing we can count on is change. There can be no such thing as a static Bureau; it must either improve or deteriorate, and it will change in its status, organization, activities and other respects. It is our desire and intention that it change for the better, not for worse, and the American veterinarian will work to that end. As a veterinarian, a citizen and a taxpayer, the veterinarian has an interest in his federal Bureau organization.

To understand what the veterinarian can do to assist the Bureau along the road to progress, it is necessary to know the program of the man who is of major importance in determining that program, the Chief of the Bureau of Animal Industry, Dr. John R. Mohler. Parts of that program have been stated in various places, but in a recent publication they are more or less comprehensively formulated. In brief they look to the establishment in the United States of a prosperous live stock industry based on stock which is well bred, well fed and adequately protected from disease. It is the desire of the Chief of the Bureau to approximate this ideal as far as possible, but it can be approximated only to the extent that funds and personnel are available. To say that our federal Bureau of Animal Industry is the best in the world is dangerously likely to induce self-complacency, and we must recall that holders of world's records rarely hold them very long; there is a widespread desire for the world's championship belt. Soviet Russia has a larger force of veterinary parasitologists than has the United States, all built up within ten years; conceivably they might soon have a larger and better

Bureau of Animal Industry, and this in turn might easily lead to a larger and better live stock industry than ours, a result which might profoundly affect our export trade. As veterinarians we owe it to the live stock industry to see to it that the Bureau does not fall short of any possible realization of its Chief's wishes through our failure to take an interest in its affairs and to work for a larger and more efficient Bureau of constantly better-trained and better-paid men.

It is common knowledge that veterinary students are not eager to enter the Bureau, and that veterinary colleges do not encourage them to do so. The pay schedules of the Bureau show too many men of many years' experience still in the lower grades of the service. Promotions have been slow, and the ambitious and capable student sees greater opportunities in private practice or in other veterinary fields. In a word, the Bureau service remains unattractive from the outside and none too satisfactory to a large part of its rank and file. As a sequel to this, the more energetic and capable men in the lower ranks are the ones more likely to resign soonest, and the less energetic and capable to remain longest.

#### AN IDEAL BUREAU

Let us attempt to picture a bureau which conforms to the specifications of Dr. Mohler. Since our concern is with the veterinary profession, we may say of its animal husbandmen only that they would be of such calibre and in such numbers as to achieve in time the ideal of a live stock industry of well-bred and well-fed animals. The veterinary service needs further specifications as regards the achievement of an ideal of animals adequately protected from disease.

*Meat inspection:* The size and importance of the meat-inspection service makes it in its way the heart of the Bureau. It is the training school of most of the veterinarians entering the Bureau. Here the young veterinarian can find the finest possible training in gross pathology. Under the intelligent and sympathetic direction of older men, he can be taught to recognize the variegated pathology displayed daily at our large plants, and by a system of rotation can avail himself of this chance to see all phases of inspection for all sorts of food animals. For a short period, perhaps an hour, every day he can avail himself of a chance to visit the "final" room and learn the diagnosis and disposition of the cases he has retained, or can go to an attractive,

well-lighted and well-ventilated room, stocked with reference works and current professional journals, and read or write up notes on cases. Specimens of interest or of uncertain nature will go to a laboratory connected with every packing-center of any importance, thereby salvaging information on specimens which can be studied only when fresh and supplying prompt information as a basis for disposal of carcasses.

All live stock will be shipped and handled in a way that will keep the identity of each animal, and all diseases of a preventable nature will be reported to the appropriate field divisions for educational or other control measures, to be taken up with the farmer or stockmen shipping the animals. In this way the meat-inspection service will not be merely a terminus, but will be a starting-point for disease prevention; not primarily an organization for the protection of human health, but one for the protection of animal health and human health. The service will be sufficiently staffed to enable it to keep complete statistical records of its findings, equivalent to those kept as public health reports in human medicine; these records will be sent to Washington, compiled by competent statisticians, and interpreted jointly by statisticians and veterinarians.

Is this too much? Not if we expect to give to the live stock industry the protection it needs. It would cost something, to be sure, but by feeding information to the field divisions it would aid in reducing disease, thus reducing condemnations, and save money for the stockman, farmer and packer. A statistical service of the sort mentioned would have long ago shown us the annual damage from such things as kidney worms and liver flukes and promptly directed us to the control of these losses. The lack of statistical service has delayed our start on investigations of the parasites named; if we had had the statistics twenty years ago, we would certainly have begun investigations twenty years ago. As it is, it is only of late years that we have been able to get together the information showing that kidney worms probably cost us \$5,000,000 a year in damage to carcasses. If we figure that ultimate control of kidney worms has been delayed twenty years by the lack of a statistical service in our meat-inspection procedures, then we shall have lost \$100,000,000 on this item alone. Even if a statistical and tracing service cost us \$1,000,000 annually, as an adequate service might, it would be money well invested.

Such a service would show us rather definitely the order in which various disease conditions were responsible for losses at packing-houses throughout the country and in various sections. To obtain valid statistics would require a much larger force of men than we have at present, and some new set-ups in the work. It should be coupled with the tracing system mentioned, in order to link up with the field divisions. To supply sound and definite information, there would have to be a reversal of some of the practices which have been forced on the Bureau by economy policies and too limited funds. The routine business of finding that a carcass should be passed, trimmed, or condemned tends to degrade many phases of meat inspection to mere gland-cutting, and puts the job on a par with a butcher's job. Such work not only has a profoundly injurious effect on the psychology and morale of the veterinarian, but it tends to degrade the entire veterinary profession. The element of individual judgment and the power of observation are essential factors in the make-up of the medical man. Whatever stultifies these things has a deteriorating effect on him. It is no new observation in psychology that a dull job will in time make a dull man out of material that is potentially keen, and there should be no dull jobs in the veterinary field. As long as the element of individual judgment is operative, there will no no dull jobs. When routine supplants individual judgment, the veterinarian goes into the category of the factory worker who puts a certain bolt in an automobile all day. It has been found that for many of these piece-work jobs, the best workers are those with the I. Q. of an 11-year-old child. Mass production is sound for business, but the veterinary profession cannot afford to put professional work on this basis. It would probably cost additional millions of dollars to expand our meat inspection and other Bureau services as they should be expanded, and it would be well worth the money. The packer, stockman and farmer would benefit to a much greater amount annually through making the meat inspection service the source of information for nation-wide control of diseases detected at abattoirs.

#### FIELD DIVISIONS

The field divisions of the Bureau draw at present on the research laboratories for information, and represent the expansion of research work to the stage of field control. As already noted, they should also draw regularly on an expanded meat-inspection

service for information in regard to the prevention of disease. Some of these divisions, such as Tuberculosis Eradication and Tick Eradication, may be dismissed at this time, with the statement that they are doing excellent work whenever the necessary support and cooperation are available.

More than this might be said of some of these divisions. The Division of Hog Cholera Control has probably served its purpose, to a large extent, in demonstrating the value of serum and virus in the control of hog cholera. As restricted to this line of work it tends to become in time merely a service unit doing work of one sort for a limited group of farmers. This unit should be given the larger field of control of swine diseases and expanded to take care of this field. It has the trained personnel familiar with swine practice and with many diseases of swine other than cholera, and should be in a position to work regularly, instead of incidentally, on controllable, and especially preventable, swine diseases of all sorts. It could push the program of swine sanitation to great advantage.

The Field Inspection Division has dealt largely with parasitic diseases, such as mange, scabies and dourine, and could well expand its activities to include other parasitic diseases, such as those caused by stomach worms and liver flukes. Sound economy commonly demands adequate expenditures, and is not attained by inadequate expenditures. Thus, it is a sheer waste of money to pay a man a salary and not provide money for the travel which would put him in contact with his work. Moreover, it is false economy to send a man to do one job a hundred miles away, when he could at little or no additional cost do a half-dozen jobs on the same trip. Much of our sheep-scabies work falls in areas where liver flukes, stomach worms and lungworms are prevalent. The field inspection force could do wonderful work in the control of such things at little additional expense in the areas where these parasites are known at present. The Division should be expanded to take over similar work in other areas.

#### LABORATORY DIVISIONS

The size and importance of the Bureau of Animal Industry justifies the idea that its laboratory groups should be large and outstanding units in veterinary research. Washington has exceptional facilities in the way of libraries and catalogs, and the Bureau laboratories should be in a position to speak authoritatively on the purely scientific aspects of veterinary medicine.

At the present time these laboratories are under the chronic handicap of the lack of housing facilities at Washington, and the staffs are badly crowded. Probably no state experiment station or veterinary college furnishes its veterinary workers with as little work space as does the federal government. This condition is very difficult to remedy, as such conditions are widespread in the federal service, and relief comes slowly through the elaborate mechanism of federal action.

Because of the exceptional facilities at Washington, the Bureau laboratories should be in a position to advise and assist veterinary research throughout the country, especially by keeping informed on the world's work. Workers outside of the Washington laboratories are in a better position to attack their local and state problems and to benefit the Washington laboratories by the publication of their results. There are wonderful opportunities for cooperation here, but these opportunities are imperfectly realized at the present time. More should be done and it might be desirable to provide means for further cooperation and coordination with the Bureau.

Because of their federal character and their relations to Bureau field men, the Washington laboratories receive large numbers of specimens and requests which in time tend to overwhelm the research activities. It is difficult, and finally impossible, to carry on research with a growing mass of routine work demanding more and more time and energy. The Bureau should have such increases in funds as will permit it to form service units for purely routine procedures, such as identification and diagnosis, putting on this work the persons best adapted to such work, and maintaining separate research units free from routine work and staffed with workers who have research ability.

Progress demands the expenditure of time and effort, and the Chief of the Bureau should have the enthusiastic support of an energetic Bureau personnel. It is a mistaken form of loyalty to assume that everything is satisfactory and that improvement is unnecessary or unattainable. Improvement in details and in a large way is something for which every Bureau employe should work in every way possible.

#### THE DOMINION HEALTH OF ANIMALS BRANCH

The writer cannot speak from any extensive knowledge of Canada's dominion service, but what has been said of the federal Bureau of Animal Industry applies there also, to the extent that

the American veterinarians should lend their support in every way to the building up of a strong force of dominion veterinarians for the service of the live stock industry. Their problems are largely identical with ours, not only from the standpoint of veterinary medicine, but also from the standpoint of the veterinary profession.

#### THE ARMY VETERINARY CORPS

During the war the Army Veterinary Corps had a much needed reorganization, although too late to enable the Corps to function as well as it would have if this reorganization, and the involved recognition of the army veterinarian, had come sooner. The reorganization changed several things. The veterinarians were transferred from their association with the Quartermaster Corps to the Medical Corps, and were given the rank of officers. The immediate effect has been to give the army veterinarian an improved status, professionally, financially and socially. His close association with the physicians of the Medical Corps gave him additional benefits as a result of professional association and the general supervision of the higher officers of the Medical Corps. It must be admitted at the outset that the personal interest and general supervision of men of the calibre of Surgeon-General Ireland is a thing of considerable value to the veterinarian, and that because of such things the association between physician and veterinarian which should exist quite generally, exists nowhere else to the extent that it does in the Army Veterinary Corps.

There are two more things which should be done for the benefit of the Veterinary Corps and the veterinary profession. One is to make legal provision for the entrance of veterinarians into the Veterinary Corps as first lieutenants, as is provided for in the cases of physicians and dentists, instead of as second lieutenants. Such a provision would be to the advantage of the entire Medical Corps and to the advantage of the veterinary profession in general. The other thing is to make legal provision to put a brigadier general at the head of the Veterinary Corps, instead of a colonel. In time of war, a corps without a general officer is at a serious disadvantage in authoritatively urging necessary measures, and in the Army authoritative speaking with the backing of adequate rank is an important thing, as many ex-officers of the war-time establishment know. It is highly probable that the Medical Corps would support both of

At the present time these laboratories are under the chronic handicap of the lack of housing facilities at Washington, and the staffs are badly crowded. Probably no state experiment station or veterinary college furnishes its veterinary workers with as little work space as does the federal government. This condition is very difficult to remedy, as such conditions are widespread in the federal service, and relief comes slowly through the elaborate mechanism of federal action.

Because of the exceptional facilities at Washington, the Bureau laboratories should be in a position to advise and assist veterinary research throughout the country, especially by keeping informed on the world's work. Workers outside of the Washington laboratories are in a better position to attack their local and state problems and to benefit the Washington laboratories by the publication of their results. There are wonderful opportunities for cooperation here, but these opportunities are imperfectly realized at the present time. More should be done and it might be desirable to provide means for further cooperation and coordination with the Bureau.

Because of their federal character and their relations to Bureau field men, the Washington laboratories receive large numbers of specimens and requests which in time tend to overwhelm the research activities. It is difficult, and finally impossible, to carry on research with a growing mass of routine work demanding more and more time and energy. The Bureau should have such increases in funds as will permit it to form service units for purely routine procedures, such as identification and diagnosis, putting on this work the persons best adapted to such work, and maintaining separate research units free from routine work and staffed with workers who have research ability.

Progress demands the expenditure of time and effort, and the Chief of the Bureau should have the enthusiastic support of an energetic Bureau personnel. It is a mistaken form of loyalty to assume that everything is satisfactory and that improvement is unnecessary or unattainable. Improvement in details and in a large way is something for which every Bureau employe should work in every way possible.

#### THE DOMINION HEALTH OF ANIMALS BRANCH

The writer cannot speak from any extensive knowledge of Canada's dominion service, but what has been said of the federal Bureau of Animal Industry applies there also, to the extent that

the American veterinarians should lend their support in every way to the building up of a strong force of dominion veterinarians for the service of the live stock industry. Their problems are largely identical with ours, not only from the standpoint of veterinary medicine, but also from the standpoint of the veterinary profession.

#### THE ARMY VETERINARY CORPS

During the war the Army Veterinary Corps had a much needed reorganization, although too late to enable the Corps to function as well as it would have if this reorganization, and the involved recognition of the army veterinarian, had come sooner. The reorganization changed several things. The veterinarians were transferred from their association with the Quartermaster Corps to the Medical Corps, and were given the rank of officers. The immediate effect has been to give the army veterinarian an improved status, professionally, financially and socially. His close association with the physicians of the Medical Corps gave him additional benefits as a result of professional association and the general supervision of the higher officers of the Medical Corps. It must be admitted at the outset that the personal interest and general supervision of men of the calibre of Surgeon-General Ireland is a thing of considerable value to the veterinarian, and that because of such things the association between physician and veterinarian which should exist quite generally, exists nowhere else to the extent that it does in the Army Veterinary Corps.

There are two more things which should be done for the benefit of the Veterinary Corps and the veterinary profession. One is to make legal provision for the entrance of veterinarians into the Veterinary Corps as first lieutenants, as is provided for in the cases of physicians and dentists, instead of as second lieutenants. Such a provision would be to the advantage of the entire Medical Corps and to the advantage of the veterinary profession in general. The other thing is to make legal provision to put a brigadier general at the head of the Veterinary Corps, instead of a colonel. In time of war, a corps without a general officer is at a serious disadvantage in authoritatively urging necessary measures, and in the Army authoritative speaking with the backing of adequate rank is an important thing, as many ex-officers of the war-time establishment know. It is highly probable that the Medical Corps would support both of

these changes, and the entire veterinary profession should support them. Any move which distinctly improves the status of a group of veterinarians must have far-reaching effects in benefiting veterinarians in general.

#### STATE VETERINARY FORCES

Our state veterinary forces show the range in efficiency that is to be expected from the diverse conditions under which they work. In all cases they are subjected to political pressure of a sort which is more acute than that to which the federal Bureau is subjected. The pressure is more immediate and more personal. Certain individuals, by virtue of their independence, sagacity and services, are more successful than others. They are more effective in convincing the stockmen of the advisability of following the sound advice of a trained man than are others. Some of these others find it advisable to accommodate influential stockmen in doing things against the veterinarian's better judgment. Some, at least in the past, have been primarily politicians themselves, or appointees selected purely on a political basis.

The veterinarians in any state should exert themselves to support in an active manner the state veterinarians who have shown themselves efficient and courageous in their handling of live stock problems. They should support sound men for the office of state veterinarian, regardless of any political consideration. They owe this to their profession as veterinarians and to the state as citizens.

#### THE VETERINARY COLLEGES

The veterinary colleges in this country have shown a steady improvement in many respects for a number of years. There is still room for improvement, but there is also the desire within the colleges for this improvement. The prospects for the future, in spite of small enrollments, are encouraging.

The veterinary colleges are constantly taking steps to strengthen their faculties by the development of sound, practical clinicians and of science teachers familiar with research as well as with teaching. There is a desire to make the veterinary degree more valuable and to give it a constantly higher standing. All such moves for the improvement of the profession deserve and should receive our support.

#### STATE AND LOCAL ASSOCIATIONS

The state and local associations serve the evident purpose of bringing veterinarians together and furthering acquaintance,

friendship and the exchange of professional information. They assist in shaping legislation on veterinary matters and should take a keener interest in such legislation. As an illustration of additional activities of a useful and profitable sort, the Eastern Iowa Veterinary Association inaugurated a news service bulletin for furnishing to the papers weekly information as to the prevalence of live stock diseases with suggestions for action. Activities of this sort indicate that someone is sufficiently alive and energetic to have new ideas and carry them out, and widespread activities of the sort would be good evidence that the veterinary profession was actually wide awake to its own interests and the interests of the stock industry.

#### THE PRACTITIONER

The practitioner is important for so many reasons that no one is likely to overlook or forget him. He is the principal product of our veterinary schools, the ultimate consumer for the products of scientific research, the important customer for the commercial houses, the veterinarian who is most in contact with the live stock industry as expressed in live stock or owners of live stock, and in numbers he bulks much larger than any other veterinary group. He has the advantage of being free to a large extent from the restrictive regulations and political pressure to which most other veterinary groups are subject, and for this reason is in a better position to speak his mind and to take a progressive position on veterinary matters. These advantages should be capitalized for the benefit of the profession.

The quality of the men engaged in veterinary practice shows constant improvement in many respects. It is true that among the older men there were more veterinarians who were shrewd judges of horseflesh, hard to deceive on any matter relating to horses, extraordinarily keen in detecting lameness, and good horsemen in the saddle or behind a team or a driving horse, but the old-timers were usually a bit "high hat" on the possibility of treating sheep, swine and dogs, and are to some extent responsible for the present difficulties in getting back into veterinary hands practices in the treatment of disease to which the farmer was driven more or less in self-defense. The newer generation is more versatile, more scientific, and more open-minded.

We may congratulate ourselves that at a time when clinical medicine has lost ground to laboratory medicine in the field of the physician, and when good clinicians are specialists under the names of internists, diagnosticians or some other thing, veter-

inarians are still clinicians, and laboratory diagnosis is still an adjunct to clinical diagnosis and not a substitute for it. Doubtless the fact that our patients cannot talk and that we must use our eyes, ears, nose and hands to make even a semblance of a diagnosis has saved us from falling into the easy practice of the physician who asks a few questions and then takes a specimen of this or that and sends it to a laboratory. The veterinarian in practice will make no mistake if he retains his ability to make a clinical diagnosis. Diagnosis is still the fine art of medicine and the foundation stone of sound medical practice, and the microscope and test-tube should supplement, and cannot supplant, the observing eye, the keen ear, and the educated sense of touch in diagnosis.

As an independent individual, the practitioner is naturally keenly sensitive to all sorts of competition to which he is or may be exposed. The same drift towards state medicine which has stirred the physicians stirs the veterinarians. It is a matter too extensive for more than passing mention here, but it is fairly evident that the eradication of eradicable diseases, and the widespread control of controllable communicable diseases must be accomplished by unified action over wide areas. As a rule, only state units have unified action. However, we note as an interesting exception that in certain areas campaigns participated in by practicing veterinarians and county agents have been carried out for the control of horse bots with rather good results. This suggests that the practitioners could go further in organization and cooperation with a view to controlling diseases than they do, and make it pay.

Do not overlook the reference to the county agent as participating in the cooperative work in bot control. Here and there we find the practicing veterinarian and the county agent fighting each other, but over most of the United States they do not fight, and in many places they cooperate to great mutual advantage. The county agent can be one of the best of the veterinarian's allies. His business is to encourage the breeding of purebred stock and of good grades, to further sound feeding practices, and to prevent disease by such measures as good farm practice and sanitation. The veterinarian can well afford to encourage him in these lines, as the success of the county agent in these matters means the building up of a profitable live stock industry, and that is the only sort of live stock industry that can afford to pay for veterinary services. Most county agents have a sensible

fear of fooling with the ticklish business of diagnosis and treatment of disease, and have no hallucinations as to the simplicity or safety of such things. Here and there an occasional man may take the wrong attitude, but here and there the veterinarian takes the wrong attitude. We can cooperate to advantage on the understanding that it is the business of the county agent and stockman to prevent disease, and the business of the veterinarian to treat disease, with such evident exceptions as the prevention of hog cholera by the use of serum and virus which is a matter of veterinary practice. This general rule has been the policy of the Bureau of Animal Industry and is reiterated in many of its publications. There are occasions when exceptions must be made to these rules, as to all other rules, but if we are friendly and sensible in our relations to one another the veterinarian and the county agent can form a strong team.

There is one field of veterinary science which the practitioner neglects and which could be exploited to the great benefit of the profession, and that is the field involving case reports properly kept, adequately analyzed, and published. In the field of therapeutics, to take an illustration, the laboratory worker may develop a drug which proves safe and effective in tests on experiment animals. Obviously more things will be involved and come to light in the treatment of a hundred animals than of ten, and still more in the treatment of a thousand. Experimentation does not permit of the continued study and expense involved in the treatment of a thousand animals, and consequently such things as contraindications for the use of a drug cannot be given adequate consideration by the investigator. If the practitioner will keep case reports on his practice, covering careful and accurate observations, treatments, results, and, whenever involved, post-mortem findings, he can contribute much of value to veterinary science. It is too much to ask that all practitioners do this, but there should be more of them who realize the fact that there is no subject about which we do not need to know more than we do know and that he can assist the profession by supplying carefully kept and properly analyzed case reports. What are usually published are individual case reports of special interest to the reporter; what are needed are series of cases sufficiently large to be indicative.

#### THE COMMERCIAL HOUSES

This is a topic with some controversial aspects. The commercial houses are quite indispensable in the service they perform,

and their rôle is substantially as important as the rôle of any other medical group. Without instruments, drugs, biologics and similar agencies we would be in a bad way when we came to any form of practice of veterinary medicine; mental therapy, with or without a religious slant, has found little place in veterinary medicine. Much has been said, one way and another, in regard to the ethical aspects of advertising and selling veterinary products, and without being in a position to verify the impression, I am nevertheless of the impression that most of what has been said has been said by representatives of commercial houses and about other commercial houses. As far as the veterinarian in general is concerned, one might note in passing that there are advantages and disadvantages pertaining to any sort of advertising and sales policies, that commercial houses are primarily business houses and not primarily professional organizations, and that while we find here and there veterinarians associated with commercial enterprises who are distinctly commercial-minded and not always ethical, we also find among the commercial houses some of the outstandingly capable, honest, and ethical veterinarians.

We have been fortunate in this country in not having evolved a system such as has developed in Germany, under which the products of commercial houses are tested by veterinarians and reported on in the veterinary journals under proprietary names. In general the composition of the products used by the American veterinarian is known to him, and our journals have not lent themselves to the exploitation of proprietaries. The present condition in this country is satisfactory and desirable, and I believe we can count on the support of the commercial houses and the journals to keep our literature free from the unscientific practice of exploiting proprietaries under trade names which give no clue as to the nature of the chemicals or drugs present.

#### SUMMARY

The American veterinarian does not have at the present time the status to which his scientific and professional attainments and his many useful services entitle him. Without an effort on his part, it is unlikely that he will achieve this status. No disinterested individuals or groups will bestir themselves to see to it that the veterinarian has adequate recognition. The veterinarian can hope to obtain this recognition only by his own efforts as an individual and through his organizations. It should

devolve on the president of the A. V. M. A., from year to year, to restate the program of the profession anew, in the light of the developments of preceding years; to map out the next steps in the attainment of that recognition; to focus attention on the subject of improvement in the profession, for the profession, and by the profession, and to serve as the spokesman for all forward-looking movements. A number of former presidents have formulated programs and urged them, but the Association has never adopted a program of action, and the efforts of presidents are too discontinuous and too brief. As long as the veterinary profession has an inadequate status, there will be constructive work for the Association and its president.

It has been the custom to select presidents of the A. V. M. A. either as representatives of veterinary groups or for their standing in some field of veterinary work. When the profession has attained a more adequate status, such a mode of selection will be in order, but for the next ten or twenty years the presidency should not be regarded as something like a medal of honor or a recognition of a veterinary group; it should be regarded as a job and the candidate selected as one who can and will bestow on the job the necessary time and energy to acquaint himself with all promising developments in the profession as a whole, to push these developments, and to crystallize sentiment for progress. To give continuity to the president's work, the Association should have a program of action to be reported on and reconsidered annually.

It is easy to foresee that any such program for persistent progress will meet with all sorts of obstacles, political considerations, personal jealousies, incomprehension on the part of persons with no imagination, and the inertia of the indolent, hopeless and easily satisfied. It will depend on the relatively small number of disinterested, eager and energetic veterinarians to overcome these obstacles in the belief that the great body of veterinarians, too busy to give time to planning, will nevertheless support all moves looking to the ultimate benefit of the profession. We have come a long way from the days of the office in the livery stable to the attractive and dignified establishments maintained by veterinarians at many places in the United States; we have a long way to go to reach the status we are capable of reaching, but our past progress is evidence that we may confidently hope to attain whatever we merit.

## THE INTERNATIONAL VETERINARY CONGRESS\*

*By C. J. MARSHALL, Philadelphia, Pa.*

The first meeting of the American Veterinary Medical Association was held June 9-10, 1863, in New York City. The first International Veterinary Congress was held July 14-18, 1863, at Hamburg, Germany. The International Veterinary Congress was called by Prof. Gamgee, of Scotland. The object of the meeting was for the purpose of, first, discussing the geographical distribution of communicable diseases of animals in the various countries; second, to gather statistics on the importation and exportation of domestic animals and the propagation of communicable diseases by beasts of commerce; and third, the means which have been found the most useful for controlling such diseases.

Gamgee had been associated with Dr. William Dick in the school at Edinburgh, Scotland, and later organized and conducted for a time another veterinary school in Edinburgh. In 1868, he came to America to make a special study of cornstalk disease in Nebraska.

Ninety-nine noted veterinarians attended the meeting in Hamburg and participated in its deliberations. Among the most important professional subjects discussed at this meeting were sanitary police measures for exterminating or controlling rinderpest and contagious pleuro-pneumonia of cattle.

The second meeting was held two years later, in Vienna, Austria, and the third at Zurich, Switzerland, in 1867. It was then sixteen years before the fourth Congress was held at Brussels, Belgium, in 1883. The Franco-German war (1870-1871) was the reason for the long period between the third and fourth congresses.

The fifth Congress met in Paris in 1889; Chauveau was President and Nocard Secretary. There were 650 delegates and visitors present, of whom 183 were foreigners. Much attention was given the subject of bovine tuberculosis at this meeting. We find no record of an American veterinarian having attended the first, second, third or fourth Congress. Prof. Liautard was present at the fifth Congress, in Paris, and reported, among other

\*Presented before the annual meeting of the Pennsylvania State Veterinary Medical Association, Philadelphia, Pa., October 23-24, 1930.

things, that 25 to 30 per cent of our cattle in the United States were tuberculous.

He also attended the sixth Congress, which was held at Bern, Switzerland, in 1895, and made a report on the control of contagious pleuro-pneumonia of cattle in the United States. The meeting lasted six days and a noted veterinarian was chosen to preside each day. The men selected were Prof. Chauveau, Lydtin, VonRaupach (of Russia), Hutyra, Berdez (Switzerland) and Müller (Germany).

The seventh Congress met in Baden-Baden, in 1899. Much of the preparation was done by Prof. Lydtin. There were 958 present, of whom 494 were Germans. The presiding officers were: Nocard, Hutyra, Schütz, Degin, Berdez, Esser, Dammann and Siedamgrotzky.

Dr. Leonard Pearson attended the eighth Congress at Budapest, Hungary, in 1905, and participated in the discussions. He made a report on the results obtained in Pennsylvania, of the vaccination of cattle against tuberculosis, and was able to disprove certain claims that had been made by vonBehring. It is believed that Pennsylvania, at that time, had done some of the most progressive work on this subject.

The State Live Stock Sanitary Board of Pennsylvania, the Pennsylvania State Veterinary Medical Association, and the School of Veterinary Medicine, University of Pennsylvania, sent Dr. Pearson as a delegate to this Congress. The facts he learned there were of great assistance to him in developing the School and devising means for controlling such communicable diseases of animals as rabies, anthrax, glanders, etc., and for evolving a system of reporting infectious diseases of animals and plan for the improvement of the milk supply.

He was honored at this meeting by being appointed on the Permanent Committee to represent North and South America at the ninth Congress, which was to meet at The Hague, Holland, in 1909. He was sick and unable to attend this Congress and his death occurred about the time of the meeting. The ninth Congress met at The Hague in 1909. There were 1400 delegates and visitors present and 900 were foreigners. Those most active in preparing for and conducting this meeting were Wirtz, Thomas-sen, Schimmel and deJong. Tropical diseases received considera-tion. There was a conference of military veterinarians during the Congress.

The tenth Congress was called to meet in London, August 3-8, 1914. No better preparations probably were ever made for a veterinary congress than those provided by the veterinarians of Great Britain on that occasion. Many delegates from foreign countries had already arrived in London and others were on the way to the Congress. A reception was held on Sunday evening and everything was ready to open the meeting the next morning. The great World War started within a few hours of the time the Congress was to have opened. Many official delegates were ordered home by wire or cable. The meeting was called to order on Monday morning by Sir John M'Fadyean and the question was put to a vote whether the Congress should continue. It was unanimously voted that there should be no meeting.

The eleventh International Veterinary Congress met in London August 4-9, 1930, after a period of sixteen years. Preparations for the Congress were made by the Permanent Committee, which was made up of the following well-known scientists: President, Dr. F. Hutyra, Dean of the Royal High School of Hungary; Vice-Presidents, Dr. E. Lelainche, Chief of the Veterinary Service of France, and Sir John M'Fadyean, M. B., B. Sc., C. M., LL. D., M. R. C. V. S.; Secretary and Treasurer, Dr. L. DeBlieck, Director of the Institute for Parasitic and Infectious Diseases of Utrecht; Assistant Secretary, Dr. V. Stang, Professor of the Veterinary High School, Berlin. Sir John M'Fadyean was unanimously elected President of the Congress. This was one of the best and most largely attended veterinary congresses ever held. More than 1800 delegates and visitors were registered from fifty-six nations, dominions and colonies. The Pennsylvania State Veterinary Medical Association was represented by four members: Drs. F. H. Schneider, Charles Massinger, E. L. Stubbs and C. J. Marshall. The United States and Canada were represented by a number of well-known veterinarians.

The object of the International Veterinary Congress is for the advancement of the science and practice of veterinary medicine and surgery. To this end discussions are arranged on what are considered to be the most important scientific and practical questions of the day, with a view to their solution by a mutual interchange of opinions and personal experiences. It is of most practical importance to those engaged in live stock regulatory work, research, teaching and public hygiene. Many of those who attend are sent as delegates from national, provincial, state or

city governments, veterinary schools, experiment stations and research laboratories.

The meetings are of much value also to men in private practice. Many of the most celebrated veterinary workers of the past three-quarters of a century have attended and participated in the deliberations of each Congress. The Congress maintains a Permanent Committee which forms a connecting link between successive meetings. This Committee also determines the date and place of the succeeding Congress. The organization of the Permanent Committee consists of a president, a vice-president, a secretary-treasurer, an assistant-secretary and the members who are outstanding veterinarians of the various countries. Dr. John R. Mohler was elected a member of the Permanent Committee this year to represent America.

The By-laws provide for an Organizing Committee of the country in which the Congress is to be held to make preparations for the Congress.

The Organizing Committee may appoint special committees to carry out the preliminary work, to organize the sections, to take charge of the financial administration, to arrange for receptions, excursions, etc.

The subjects to appear on the program are selected by the Organizing Committee in concert with the Permanent Committee, taking into account resolutions which may have been passed by the previous congress, as well as any proposals which may be submitted to the Permanent Committee by individual members of the profession or by professional bodies, not later than one year before the meeting of the Congress.

Members of the Congress are composed of honorary members, ordinary members and extraordinary members. The ordinary members are:

1. Delegates of foreign governments.
2. Delegates of veterinary and other colleges.
3. Delegates of veterinary societies.
4. Delegates of agricultural corporations.
5. Delegates of authorities, and state and municipal administrations.
6. Veterinary surgeons.
7. Other representatives of medical science or practice admitted by the Organizing Committee.

The following persons are admitted as extraordinary members:

1. Veterinary students.
2. All other persons considered eligible by the National Committee.

The meetings are conducted in three languages: English, French, and German. The paper is given in full in the language of the speaker. Extracts of the papers are then given in the two other languages by an official interpreter. The papers and extracts are submitted to the Committee some time in advance of the meeting. They are printed and submitted to the membership before or at the meeting.

The first function of the recent Congress was a reception by the President and members of the Organizing Committee to members of the Congress, on Sunday evening, August 3. The official opening of the meeting occurred Monday morning, at 11 o'clock. There was a general meeting of the Congress each morning of the week, to and including Saturday. The afternoons were devoted to section work. Receptions were held Tuesday and Friday evenings. The banquet to national delegates was held on Wednesday evening and the official dinner of the Congress was given on Thursday evening. The receptions and dinners were greatly enjoyed by those who attended. The program was exceptionally well filled by the most learned men in our profession.

The following are the titles of some of the most important papers that were presented and discussed:

1. Variola in Domestic Animals.
2. The Use of Drugs in the Treatment of Disease Caused by Nematode and Trematode Worms.
3. Fowl Typhoid and Bacillary White Diarrhea.
4. Anthrax (Control of Dissemination by Animal Products).
5. Foot-and-Mouth Disease.
6. Hog Cholera.
7. Milk Fever.
8. Fowl-pox and Coryza.
9. Genetics (Principles of Breeding).
10. Rabies (Vaccination).
11. Tuberculosis Vaccination.
12. Acute Infectious Mastitis.
13. Deficiency Diseases.

14. Scientific Feeding of Animals.
15. Infectious Abortion of Cattle, Sheep and Swine.
16. Distemper (Etiology and Vaccination).
17. Bovine Sterility (Prophylaxis and Treatment).
18. Rinderpest (Prophylaxis).
19. Meat and Milk Inspection.
20. Diseases of the New-Born.
21. Fowl Plague (Vaccination).

These papers will be published in full in the near future and should be a most desirable addition to our literature on these important subjects.

Membership in the Congress is \$7.50; there are no dues. The extensive program and report are well worth the membership fee.

The Congress approved the report that the cause of aphthous fever or foot-and-mouth disease is due to a plurality of viruses and that this fact is important from the standpoint of epizooiology and for active and passive immunity. Each country in which aphthous fever is present or occurs is urged to determine if possible the type or types of virus present.

It was decided in London to hold the next meeting of the International Veterinary Congress in 1934, in the United States. If the standards that have been maintained by our European confreres in the past in conducting the various congresses is to be continued, it will be necessary for us to begin early and work hard until the time of the meeting. It should be considered a great honor to have an opportunity to entertain the many distinguished and scholarly veterinarians from abroad who will be with us on that occasion.

An Organizing Committee of American veterinarians will be selected at the proper time to arrange the details for conducting the twelfth International Veterinary Congress. We should give this committee our unlimited support.

---

#### Doctor Mayo Retires

In announcing his retirement as manager of the Veterinary and Export departments of Abbott Laboratories, Dr. N. S. Mayo says, "Like most people, one always plans to do some things that he really wants to do but cannot, owing to the pressure of other work. Mrs. Mayo and I hope to do more traveling and take more time for enjoyment of things."

Dr. E. E. Sweebe will succeed Dr. Mayo as manager of the Veterinary Department of Abbott Laboratories.

# CLINICAL AND CASE REPORTS



## TWO CASES INDICATING THE VALUE OF EXPLORATORY LAPAROTOMY\*

By GERRY B. SCHNELLE, Boston, Mass.

*Angell Memorial Hospital*

### I. TRAUMATIC RUPTURE OF THE MESENTERY

*Subject:* A wire-haired fox terrier, male, ten months old.

*History:* Inquiry revealed the fact that he had participated in an auto accident one week previously.

*Symptoms:* Absolute gastric intolerance for 24 hours, bilious vomitus for 10 hours; temperature, 104.2° F.; pain and restlessness. Palpation revealed a firm painful mass in the abdomen.

*Operation:* The subject was prepared for laparotomy and an incision made on the median line. Two fingers were inserted into the abdominal cavity and the mass which had previously been palpated was brought to the surface. The incision was enlarged to allow the mass to be brought through, proceeding very carefully. It was discovered to be a rent in the mesentery through which a loop of intestine had passed and subsequently become strangulated. The rent in the mesentery was enlarged by tearing and the strangulated loop of gut brought back through. Although there was considerable gaseous distension, the gut seemed normal otherwise. The edges of the mesentery were freshened and then sewed by a continuous suture with number 0 catgut and the abdominal incision closed.

Liquids only were allowed for four days, then a gradual return to normal diet.

An uneventful recovery ensued.

### II. FALSE DIVERTICULUM OF THE LARGE INTESTINES

*Subject:* A spayed Scottish terrier, two years of age.

\*Presented at meeting of the Massachusetts Veterinary Association, Boston, Mass., October 22, 1930.

**Symptoms:** Loginess, with occasional restless periods; absolute gastric intolerance for twelve hours, with bilious vomitus the last four hours; temperature, 104.6 F. Palpation revealed an undefined, painful mass well forward in the abdomen.

**Operation:** The subject was prepared and properly draped with sterile gauze and an incision made on the median line. A mass of adhered and greatly distended large intestine was located. It included part of the descending and part of the transverse colon.

The adhered mass was separated as well as possible from the surrounding organs and carefully brought to the surface. It appeared to be an abscessed diverticulum.

The contents of the gut on either side were emptied by stripping with the fingers, and intestinal clamps applied.

The colon on both sides of the mass was incised *obliquely*, more free border being removed than mesenteric (this gives a greater cut surface and allows for a reduction of diameter by suturing) and the entire mass was removed from the abdomen.

The corresponding V-shaped portion of the mesentery was removed.

When the gut was incised a small quantity of pus oozed from the lumen, so the lumen at both ends and the entire operative area were washed with a 1:10,000 solution of metaphen.

Two through-and-through stitches were taken to approximate the ends of the gut. Then a close, continuous stitch with number 0 catgut and a fine intestinal needle was taken to complete the end-to-end anastomosis. The sutures were taken through all the layers of the gut. It is generally considered advisable to take a row of Lembert sutures behind the continuous, but it was not done in this case.

At the junction of the mesentery and the gut a single quilted suture was taken to close this all-important gap.

The mesentery was sewed with a continuous suture and the abdomen closed.

Nothing except small quantities of water was given by mouth as sustenance for four days. Small doses of mineral oil were given daily, as well as gentle saline enemata. After four days, clear beef broth was given, until the sixth day, when milk was added and on the tenth day solids were allowed in small quantity.

The temperature returned to normal twelve hours subsequent to the operation and an uneventful recovery followed.

*Histological diagnosis:* The mass when sectioned was shown to be a thickened loop of the colon, normal histologically, folded upon itself and abscessed.

I am at a loss to explain the formation of this false diverticulum unless it could be traced to injury to the gut when the bitch was spayed. (The spaying had quite evidently been done by unskilled hands, as estrus still persists.)

These two animals were indisputably cases which required laparotomy for diagnosis and treatment, and to save the lives of the subjects.

The symptoms in these two cases were typical of those requiring laparotomy: intussusception, volvulus, obstructing foreign bodies, tumors causing obstruction, acute cecitis, true diverticula, which become abscessed or cause obstruction, and others.

---

#### PORCINE OSTEOMYELITIS, PYEMIC ARTHRITIS AND PYEMIC BURSITIS ASSOCIATED WITH BRUCELLA SUIS TRAUM\*

By W. A. JAMES and ROBERT GRAHAM

Laboratory of Animal Pathology and Hygiene

University of Illinois

*History:* During the last fifteen years, a swine-raiser in McLean County, Illinois, observed symptoms of difficult locomotion in different animals of his herd. The disturbed locomotion consisted mainly of stiffness and soreness in walking (figure 1) accompanied by varying degrees of unthriftiness. Some of the lame animals which the owner described to the writers apparently displayed enlarged metacarpo-phalangeal and metatarso-phalangeal joints, though the articulations in all lame animals were not noticeably involved. It was apparent from the information presented by the owner that the disease was chronic in character, since animals that displayed progressive symptoms, or symptoms that continued without cessation, were often discarded as breeders and placed in the fattening-pen preparatory to early marketing.

The practice of disposing of afflicted animals obviously afforded limited information regarding the true outcome or terminal stages of the disease in the majority of cases.

The owner had raised hogs on this farm for forty years, but during the past fifteen years he estimated, from available records,

---

\*Received for publication, August 30, 1930.

that approximately 25 per cent of all animals in the herd had displayed varying symptoms of soreness and stiffness. According to his observations, complete recovery seldom occurred but many animals remained mildly afflicted. In an effort to suppress the malady, a variety of remedial agents had been administered to the afflicted animals over a period of years. The remedies employed by the owner were supposedly of value in treating porcine rheumatism. No beneficial results of treatment were noted. Since concrete floors are often associated with stiffness in swine, it is of interest to note that the animals in this herd were not fed or housed on concrete.



FIG. 1. Animal showing symptoms of difficult locomotion. A natural case of the disease encountered in a purebred Duroc herd in McLean County, Illinois (1930). Note unthriftiness and symptoms of difficult locomotion.

Inasmuch as the clinical malady was recognized by soreness and stiffness in walking, and unthriftiness in cases of long standing, it appeared that the etiologic as well as the contributing factors might have been operative in the herd over a period of years. In the spring and summer of 1930, the owner reported that the rheumatic-like disease was more prevalent than in previous years. Some of the infected animals were likewise more severely afflicted. The progressive nature of the malady prompted the owner to consult the local veterinarian and in attempting to locate the specific cause or causes of the lameness,

a typically afflicted pig was delivered to the Illinois Experiment Station for examination.

Following autopsy and bacteriologic examination of this animal, a clinical survey of the herd by one of us (W. A. J.) showed that 25 out of 75 animals, varying in age from 6 weeks to 3 years, displayed symptoms of soreness or lameness in walking. A majority of the lame animals weighed 150 pounds or more. Some of the animals, in addition to the symptoms of stiffness and lameness, showed distinct swellings in the region of the front and hind fetlocks. In other animals that displayed difficult locomotion, well-defined enlargements involving the articulations were not

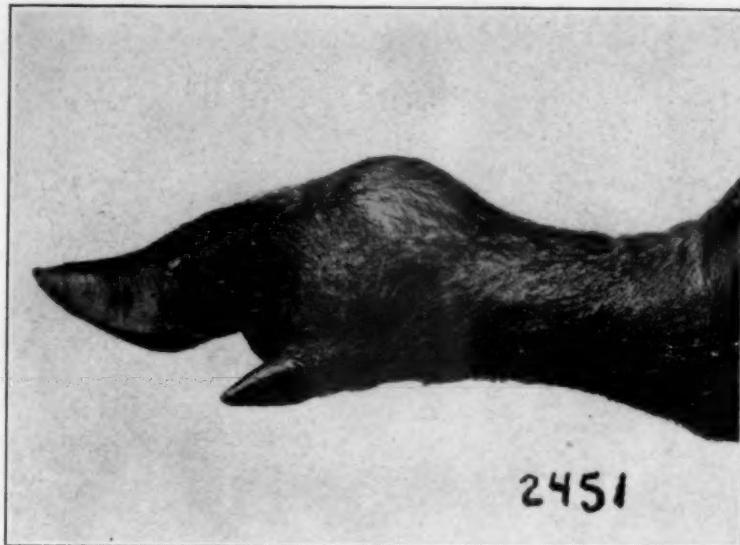


FIG. 2. Metatarsal-phalangeal articulation showing soft, fluctuating swelling on volar aspect. Not all lame animals showed visible enlargement of the joints, but at autopsy the distended articulation (case 1) contained pus.

noted. Occasionally the shoulder, knee and hock joints appeared abnormally prominent, yet there were no circumscribed swellings of the articulations that could be detected at the time the herd was inspected. During the summer of 1930, the practice of marketing mildly infected animals before the disease advanced was not successfully practiced by the owner. Some of the mildly infected animals that were culled and placed in the fattening-pen for early marketing failed to make normal gains and some suffered distinct loss in weight. Two of the afflicted animals died rather suddenly from unestablished causes, while

several failed to increase in weight, notwithstanding the animals had access to fattening rations.

Upon inquiry regarding the extent inbreeding had been practiced, it was learned that abortion had occurred in this herd. The owner estimated that in alternate years approximately 10 per cent of the mature sows and approximately 20 per cent of the gilts aborted over a period of ten or more years. No effort had been made to establish the cause of the abortions or if any animals in the herd harbored the infectious type of the disease. Purebred cattle on the farm had not aborted, but sterility was unusually common. Likewise, sterility in sows had been noticed

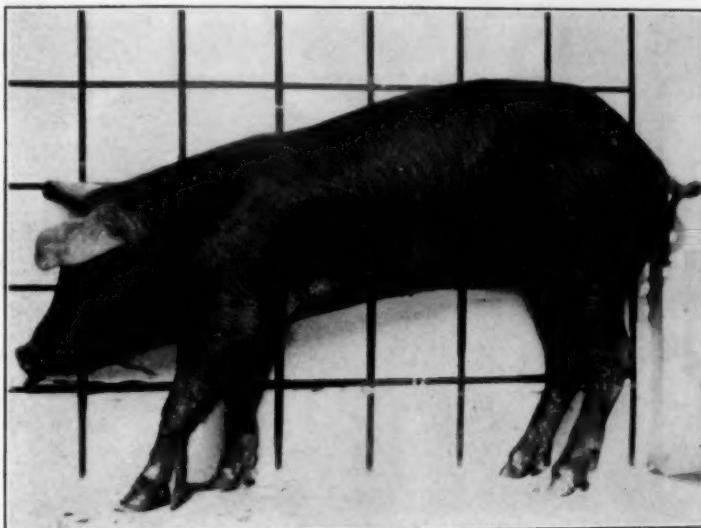


FIG. 3. Naturally infected pig showing emaciation and unthriftiness. This animal (case 2) moved with a stiff, stilted gait. As the disease advanced, thin and similarly afflicted animals lost in weight. Infected animals were discarded for breeding and, when possible, fattened for the market.

by the owner. The pig (case 1) delivered by the owner to the Experiment Station, August, 1930, on examination showed distinct swellings of the articulations, while a few days later an additional pig (case 2) came to autopsy. This animal was stiff and lame but showed no noticeable swellings of the articulations. Both animals, however, displayed similar rheumatic symptoms.

#### CASE 1

*Subject:* Duroc Jersey boar; age, 7 months; weight, 175 pounds.

*Symptoms:* Animal in medium condition but gaunt in appearance and declining in weight, according to owner. Symptoms of

a typically afflicted pig was delivered to the Illinois Experiment Station for examination.

Following autopsy and bacteriologic examination of this animal, a clinical survey of the herd by one of us (W. A. J.) showed that 25 out of 75 animals, varying in age from 6 weeks to 3 years, displayed symptoms of soreness or lameness in walking. A majority of the lame animals weighed 150 pounds or more. Some of the animals, in addition to the symptoms of stiffness and lameness, showed distinct swellings in the region of the front and hind fetlocks. In other animals that displayed difficult locomotion, well-defined enlargements involving the articulations were not

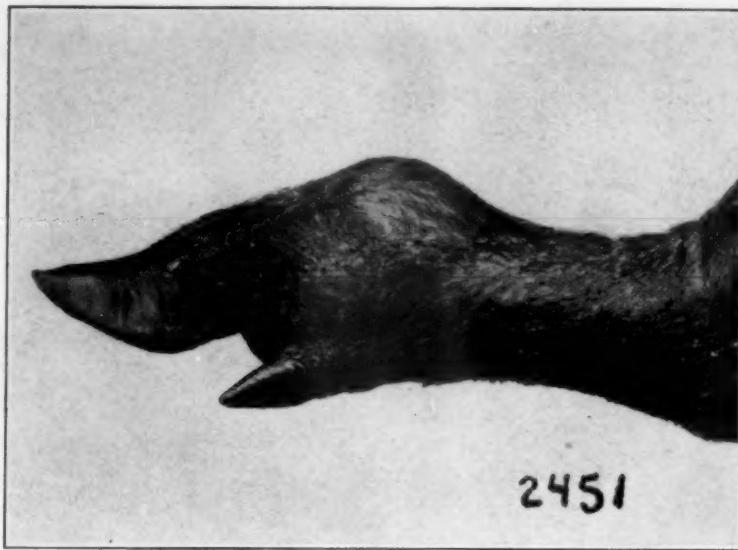


FIG. 2. Metatarsal-phalangeal articulation showing soft, fluctuating swelling on volar aspect. Not all lame animals showed visible enlargement of the joints, but at autopsy the distended articulation (case 1) contained pus.

noted. Occasionally the shoulder, knee and hock joints appeared abnormally prominent, yet there were no circumscribed swellings of the articulations that could be detected at the time the herd was inspected. During the summer of 1930, the practice of marketing mildly infected animals before the disease advanced was not successfully practiced by the owner. Some of the mildly infected animals that were culled and placed in the fattening-pen for early marketing failed to make normal gains and some suffered distinct loss in weight. Two of the afflicted animals died rather suddenly from unestablished causes, while

several failed to increase in weight, notwithstanding the animals had access to fattening rations.

Upon inquiry regarding the extent inbreeding had been practiced, it was learned that abortion had occurred in this herd. The owner estimated that in alternate years approximately 10 per cent of the mature sows and approximately 20 per cent of the gilts aborted over a period of ten or more years. No effort had been made to establish the cause of the abortions or if any animals in the herd harbored the infectious type of the disease. Purebred cattle on the farm had not aborted, but sterility was unusually common. Likewise, sterility in sows had been noticed

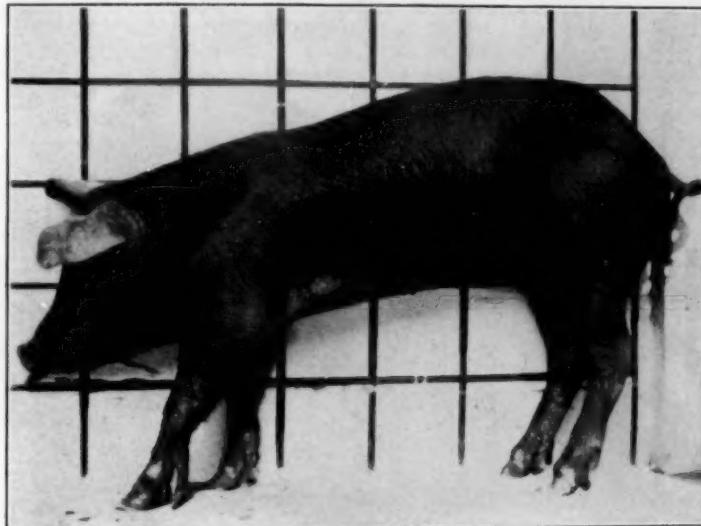


FIG. 3. Naturally infected pig showing emaciation and unthriftiness. This animal (case 2) moved with a stiff, stilted gait. As the disease advanced, thin and similarly afflicted animals lost in weight. Infected animals were discarded for breeding and, when possible, fattened for the market.

by the owner. The pig (case 1) delivered by the owner to the Experiment Station, August, 1930, on examination showed distinct swellings of the articulations, while a few days later an additional pig (case 2) came to autopsy. This animal was stiff and lame but showed no noticeable swellings of the articulations. Both animals, however, displayed similar rheumatic symptoms.

#### CASE 1

*Subject:* Duroc Jersey boar; age, 7 months; weight, 175 pounds.

*Symptoms:* Animal in medium condition but gaunt in appearance and declining in weight, according to owner. Symptoms of

soreness were marked. The animal repeatedly assumed a recumbent position unless urged to move. Body temperature, normal; respiration, normal.

Swellings in the region of the front and hind fetlocks as well as the right shoulder were observed upon clinical examination. The swellings at the left carpal-metacarpal and tarsal-metatarsal articulations (figure 2) were soft and fluctuating in contrast to the prominent, firm, right humero-radial region. The character and location of the latter swelling suggested the possibility of osteomyelitis involving the proximal extremity of the radius and the distal extremity of the humerus. The soft fluctuating



FIG. 4. Walking on the carpus in an effort to relieve pain (case 2, same animal as in figure 3). Note the prominence of the left humero-radial region. Suggestive clinical evidence of osteomyelitis. The articulation proper appeared normal at autopsy and the bones showed osteomyelic lesions.

swellings of the fetlock regions failed to circumscribe the articulation completely and were most pronounced on the volar aspect of the limb (figure 2), suggesting a pyemic arthritis or bursitis.

*Autopsy:* Body and visceral lymph-glands normal. Thoracic and abdominal organs normal. The left metacarpo-phalangeal as well as metatarso-phalangeal articulations contained an abundance of creamy yellow pus which distended the capsular ligaments of the articulations. Along the flexor tendons and immediately below the radio-humeral articulation, distinct cul-de-sac-like enlargements varying from 0.2 to 0.5 centimeters

in diameter were distended with pus. Examination of other articular surfaces of the bones of the limbs revealed similar pyemic changes in the right humero-radial and femoro-tibial articulations. The articular cartilages of the infected joints showed peripheral erosion. The empyemic condition of the articulations appeared to explain the antemortem symptoms observed in the animal, and the bones were not examined for evidence of osteomyelitis.

*Pathologic diagnosis:* Pyemic arthritis and pyemic bursitis.

*Bacteriologic examination:* *Brucella suis* Traum was isolated from one pyemic articulation and from bursal abscesses.

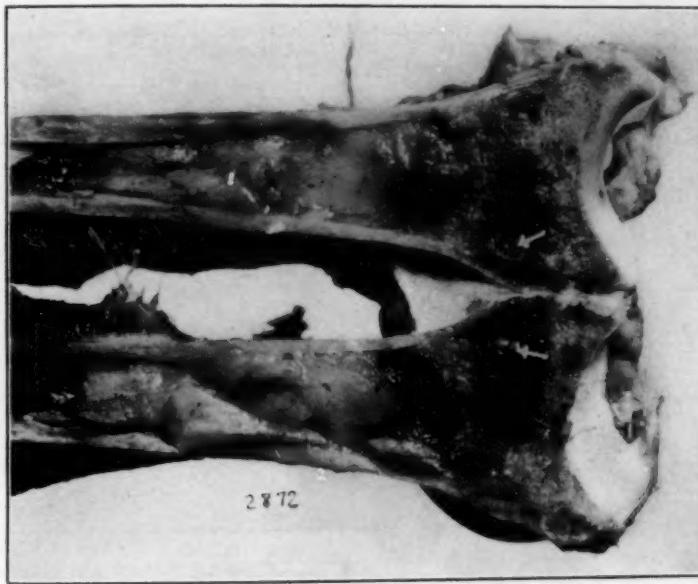


FIG. 5. Bisected tibia (case 2) showing necrotic osteomyelitic lesions. Small circumscribed focal abscesses in reticular bone substance near the epiphyseal juncture. The pus was creamy yellow in color.

#### CASE 2

*Subject:* Duroc Jersey pig; weight, 125 pounds; emaciated and unthrifty (figure 3).

*Symptoms:* The flexor tendons of the anterior limbs were contracted, and the animal walked on its toes. At other times the front limbs were flexed and the animal walked on the carpi (figure 4). No enlargements were found in the region of the fetlocks but on palpation the right and left shoulder and left stifle joints appeared prominent and sensitive (figures 3 and 4),

but the swellings were not circumscribed or well defined. Respiration and temperature, normal; r.b.c., 5,440,000; w.b.c., 21,500.

*Autopsy:* The pig was destroyed by bleeding and the blood serum was used to agglutinate *Brucella suis* Traum and *Brucella melitensis* antigens. The former antigen was agglutinated in a dilution of 1:800 and the latter at 1:200. The articulations of the front and hind limbs were penetrated aseptically. The synovial fluid of the articulation appeared normal and no gross evidence of arthritis could be observed. The synovial membrane posterior to the humero-radial articulations, especially in the middle and superior diverticula, contained an abundance of yellow purulent material.

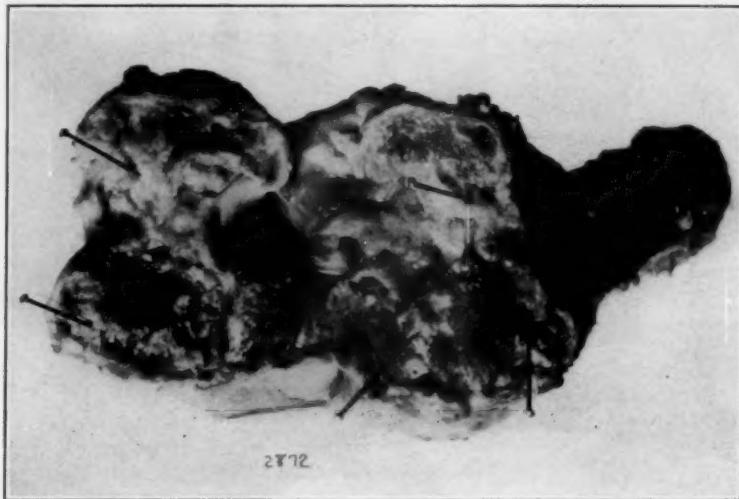


FIG. 6. Osteomyelitis of the distal end of left humerus. The multiple abscesses were numerous and extensively involved the reticular tissue. Some of the abscesses were confluent. The articular surface of the humero-radial joint was not grossly involved.

Negative gross findings in the articulations, together with the prominence of the radial-humeral articulation, prompted a bisection of the long bones of the limbs. In the proximal end of the tibia, two small necrotic foci at the epiphyseal junction, varying in size from 0.2 to 0.5 centimeters in diameter, were observed (figure 5), while in the reticular tissue in the distal end of the left humerus multiple abscesses, varying in size from 0.2 to 1.5 centimeters, were encountered (figure 6). The smaller necrotic foci were inspissated and semi-firm in texture, while the larger abscesses contained a yellow creamy pus. The gross osteomyelitic lesions encountered in the tibia and humerus

prompted a search for lesions throughout the skeleton. In the distal end of the right humerus and right femur, several small abscesses were encountered in the proximal reticular tissue (figure 7), but no gross evidence of osteomyelitis was found in the short or flat bones.

*Pathologic diagnosis:* Osteomyelitis and pyemic bursitis.

*Bacteriologic examination:* *Brucella suis* Traum was isolated from the pus from the distal end of the left humerus.



FIG. 7. Abscess in reticular tissue of the distal end of the right humerus. No gross enlargement of the bone was noted clinically but gross lesions were noted at autopsy.

#### SUMMARY

1. A malady in one herd of swine which, according to the owner, occurred over a period of several years, was observed on a single herd inspection, August, 1930.
2. The clinical syndrome presented in several infected animals, coupled with the gross pathologic lesions and bacteriologic findings in two animals, suggest to us the significance of *Brucella suis* Traum as a cause of lameness and stiffness in this herd. At autopsy, lesions of pyemic arthritis, pyemic bursitis and osteomyelitis were encountered.

3. As far as we know, spontaneous osteomyelitis, arthritis and bursitis associated with *Brucella* infection has not been previously reported in swine. These findings also suggest that one type of spontaneous osteomyelitis may occur independent of pyemic arthritis associated with *Brucella* infection.

#### ADDENDUM

Since the above was written, the positive bacteriologic findings in direct cultures of bone pus have been confirmed by guinea pig inoculation. Stated in another way, guinea pigs injected with the necrotic bone material developed lesions somewhat characteristic of Bang bacillus infection in the liver and spleen. The blood serum of the inoculated guinea pigs agglutinated stock *Brucella* cultures, while direct isolations were made from the inoculated guinea pigs following inoculation, and at time of autopsy.

---

### THE INGUINAL INCISION FOR CASTRATION OF THE DOG\*

BY CARL F. SCHLOTTHAUER, Rochester, Minnesota

*Division of Experimental Surgery and Pathology,  
The Mayo Foundation*

Castration of the dog, while not a common practice, frequently is resorted to for various reasons, chief of which are diseases of the testicles, balanitis, prostatic hypertrophy and to correct certain pernicious habits.

Castration of the dog is generally performed by incising the scrotum. This operation is simple and easily performed. However, it has some very undesirable features, the most common of which is that any operative wound on the scrotum is unsightly, and, furthermore, because of its situation the wound is easily traumatized and infected. This frequently necessitates hospitalization for a week or longer. However, there are certain types of pathologic changes of the testes for which a scrotal incision must be made.

The inguinal incision for the castration of male animals, while not new, is not used for dogs as frequently as it should be. I have used this method of procedure when possible in the last three years, and have found it highly satisfactory. The opera-

\*Received for publication, October 30, 1930.

tion should be performed aseptically, and either general or spinal anesthesia may be used. The dog should be securely fastened in a dorsal recumbent position with the hind legs retracted laterally. Then the inguinal space should be shaved and prepared for operation, and the surgical procedure is as follows: A small incision is made through the skin and fascia parallel to and 2 to 4 cm. lateral to the penis and 2 cm. or more ventral to the scrotum. This distance will vary with the size of the dog. If the spermatic cord can be palpated, the incision may be made directly over it. The spermatic cord is freed by blunt dissection from the surrounding fascia, grasped with the fingers and drawn out through the incision in the skin. Then, as traction is applied to the cord, the scrotum is grasped with the thumb and forefinger of the other hand and pressure is applied sufficient to force the testicle forward and out through the wound. When the testicle has been drawn out through the wound, the spermatic cord is ligated with chromic catgut, as close to the external inguinal ring as possible, and the cord distal to the ligation is severed. The stump of the cord is buried deep in the fascia and the subcutaneous tissues over it are sutured. The wound in the skin is closed with a continuous linen suture and covered with gauze and collodion.

If the technic has been aseptic and the incisions were large enough to prevent extensive trauma of the surrounding tissues, very little swelling occurs. Such a wound will heal rapidly, it is protected from accidental trauma, and is not exposed to view. The animal can safely be returned to his home immediately after he recovers from the anesthetic. The skin sutures may be removed in four or five days.

I have found the inguinal incision far superior to the scrotal incision for the castration of dogs. This operation is easily performed and is devoid of many objectionable features. The dog is more comfortable and presents a better appearance, and, since the wound is in a protected position, infection is rare.

#### Missouri Offers Special Course

Dr. J. D. Ray, secretary of the Missouri Veterinary Medical Association, has announced that the Association will again cooperate with the University of Missouri in putting on another Special Course for Graduate Veterinarians, at Columbia, January 20-23, 1931. Graduate veterinarians of Missouri and surrounding states are cordially invited to attend.



**EXPERIMENTAL EDEMA IN DOGS IN RELATION TO HUMAN EDEMA OF RENAL ORIGIN.** M. Herbert Barker and E. J. Kirk. *Abst. Arch. Path.*, x (1930), 2, p. 297.

Edema in dogs, varying from a slight to a marked degree, can be produced by decreasing their serum protein. The amount of edema, both in patients and in dogs, seems more closely associated with the level of the serum-albumin fraction than with the total protein. The basal metabolism of the dogs fell with the depletion of the blood serum. The blood volume in dogs was unchanged in the edematous period, but the cardiac output was greatly increased. Renal pathologic changes in dogs were produced by a low proteinemia, as shown by the appearance in the urine of albumin, granular casts, fat droplets, and products of renal cell degeneration in the urine and by definite degeneration of the renal tubules, destruction of the glomeruli and scar tissue formation.

**OBSERVATIONS ON THE TRANSFUSION OF PORTAL BLOOD FROM DOGS WITH INTESTINAL OBSTRUCTION TO NORMAL RECIPIENTS.** H. A. Carlson, F. W. Lynch and O. H. Wagensteen. *Proc. Soc. Exp. Biol. & Med.*, xxvii (1930), 9, p. 954.

In all of the six animals transfused with the portal blood of six other dogs dying of simple obstruction of the intestine, a definite increase of blood pressure was obtained soon after the transfusion was begun. This elevation in blood pressure was sustained for several minutes and then there followed a gradual decline to the normal. The transfusion of the blood from the normal donor, to which histamine was added, resulted in an immediate and protracted drop of blood pressure to about one-half of the original reading despite the increase in blood volume. Seventeen minutes later, the blood pressure almost regained the initial normal level. Portal blood of dogs dying of intestinal obstruction failed to exhibit the physiologic test for histamine.

**ACTIVE IMMUNIZATION OF FOWLS AGAINST FOWL PLAGUE.**

Harvey S. Purchase. *Jour. Comp. Path. & Therap.*, xlvi (1930), 2, p. 151.

Of forty-six birds used for immunization experiments, nineteen survived three inoculations, and of these only nine were found immune after a test dose of virus, given seven days after the last dose of vaccine. In the experiments described it usually required more than seven days in the dark at room temperature, at approximately 21° C., before a vaccine prepared by Todd's technic lost its virulence, in 0.5-cc doses given intramuscularly to healthy susceptible fowls. In parallel experiments, using virulent fowl plague muscle, it was found that normal liver material hastened markedly the devitalization of the virus, and that this was probably due to its bile content as the addition of bile was found to be even more effective.

---

**CULTIVATION OF BRUCELLA FROM THE STOOLS AND BILE.** Harold

L. Amoss and Mary A. Poston. *Jour. Amer. Med. Asso.*, xciv (1930), 7, p. 482.

The authors were able to isolate Brucella 78 times from the stools of six patients. The essential procedure of the method is to clump the organisms present with immune serum added to the stool suspension and to concentrate by differential centrifugation. The final precipitate is plated on stock eosin-methylene-blue plates made with meat-extract agar adjusted to pH 7.4. Four plates are seeded in each instance, incubated at 37°C., two in ten per cent carbon dioxide and the others outside. The use of liver agar as the basis for the plates offers no improvement over meat-extract agar. Brucella have been obtained in cultures from the bile procured by duodenal drainage and from the contents of the gall-bladder at operation in a case of chronic Brucella infection. The authors have observed that the causal organism may not always be present in the stools of acute cases of Brucella infection.

---

**THE TYPES OF TUBERCLE BACILLI FOUND IN TUBERCULOUS**

**LESIONS AND IN NON-TUBERCULOUS TISSUE IN MAN.**

Joseph D. Aronson and Caroline E. Whitney. *Jour. Inf. Dis.*, xlvi (1930), 1, p. 30.

Tubercle bacilli obtained from latent and progressive lesions and from non-tuberculous tissue fall into two distinct groups, the human and bovine types, with occasional atypical strains. The

human type is characterized by luxuriant growth on glycerol-agar and slight pathogenicity for the rabbit; the bovine type is characterized by sparse growth in early generations on glycerol-agar and high pathogenicity for the rabbit; the atypical strains may grow luxuriantly on glycerol-agar and be highly pathogenic for the rabbit, or the cultures may grow sparsely and be slightly pathogenic for the rabbit. From latent tuberculous lesions of human autopsy material, there were isolated 83 cultures of the human type of tubercle bacillus, three cultures of the bovine type, and two atypical strains. From progressive tuberculous lesions, 96 cultures of the human type and three cultures of the bovine type were isolated. From lung tissue, pulmonary lymph-nodes, and mesenteric lymph-nodes free from tuberculous lesions, there were isolated 38 cultures of the human type and two atypical cultures. Three of the bovine cultures were obtained from guinea pigs inoculated with latent pulmonary tuberculous lesions. Three cultures of bovine tubercle bacilli were obtained from the mesenteric nodes and lungs of children. The atypical strains were isolated from elderly patients, two cultures being obtained from non-tuberculous lesions and two from a latent tuberculous lesion.

---

**THE TENACITY OF THE VIRUS OF FOOT-AND-MOUTH DISEASE  
UNDER FIELD CONDITIONS.** Ralph Jackson. *Jour. Comp. Path. & Therap.*, xliv (1930), 2, p. 89.

The records of foot-and-mouth disease in Great Britain during the past twenty years (1909-1928) show that there occurred 5659 outbreaks, the slaughter policy being adopted in 5554 cases. On these latter premises the disease reappeared in 57 instances. In 13 instances of these the disease was probably reintroduced from outside sources. The minimum period for restocking is 6 weeks after completion of disinfection. Most of the recurrences appear to be associated with building or with foodstuffs and straw. In 42 tabulated instances the disease reappeared in 6 to 104 days after restocking, 55 to 176 days after slaughter of affected animals, and from 28 to 141 days after disinfection of the premises. Of the 42 cases tabulated, the disease appeared in one case in October, one case in March, three cases in February, and the remainder in November and December. The author suggests that the winter months represent the period of greatest incidence of the disease in Great Britain, probably because the viability of the virus is assisted by the lower temperatures and the lack of

sunshine. It is pointed out that it is during these months that farms are most heavily stocked with hay, straw, cake, roots, and so forth, which makes it more difficult to carry out the precautionary measures of disinfection.

---

**PYOBACILLOSIS IN SHEEP.** Walter Jowett. *Jour. Comp. Path. & Therap.*, xliii (1930), 2, p. 109.

An organism encountered in certain lesions in sheep bears a close morphological resemblance to, but is distinct from, the *Corynebacterium pyogenes (bovis et suis)*. The organism in question is considered to be *C. pyogenes*, which apparently has become adapted to the sheep, in passage through which animal it has undergone certain modifications. Although in apparently good condition, the affected sheep showed pronounced symptoms of distressed breathing. Autopsy revealed well marked bronchopneumonia and pleuro-pneumonia with, in some cases, a considerable quantity of fluid in the pleural cavity. This fluid was in some cases clear, straw-colored and odorless, but in others (more advanced cases) was turbid, contained flakes of lymph and pus and emitted a distinctly objectionable odor. An outstanding feature was the sharp line of demarcation separating the diseased from the still healthy portion of the lung. In some of the more chronic cases fibroid changes, purulent foci, necrotic foci and adhesions were found.

---

**EXPERIMENTAL ACUTE AMEBIC COLITIS IN DOGS.** Ernest Carroll Faust. *Proc. Soc. Exp. Biol. & Med.*, xxvii (1930), 9, p. 908.

By utilizing a technic whereby muco-sanguineous exudate from active cases of amebic colitis in dogs was injected per anum into the distal portion of the ileum, infection corresponding to spontaneous amebiasis in this host was produced in 13 out of 14 dogs, ranging in age from 2 months to 4 years. The incubation period as determined by the presence of active *Endamoeba histolytica*, in mucous withdrawn directly from the cecum, has ranged from 1 to 23 days, with the largest number of findings on the second day. Acute cases probably complicated by bacteriemia terminate with death in about two weeks. Chronic cases and one spontaneous recovery have also been observed. Carrier cases, with the passing of cysts in the stools, apparently do not develop in dogs. The cecum is the primary seat of infection with *E. histolytica* in the dog. The dog apparently receives its amebic infection

from man, but due to the failure to produce cysts the infection apparently cannot be transferred in nature from dog to dog or from dog to man.

"KEEL DISEASE" IN DUCKLINGS IN BRITAIN. S. H. Gaiger and G. O. Davies. *Jour. Comp. Path. & Therap.*, xlvi (1930), 2, p. 125.

What appeared to be the first recorded outbreak of "keel disease" in Britain is described by the authors. The apparent causal organism was found to be culturally, pathogenically and serologically identical with, or very closely related to, *Salmonella anatum*, Rettger and Scoville, non-aertrycke type. This organism often was found with other organisms, the latter revealing no evidence of pathogenicity. The authors believe that the pathogenic powers of *Sal. anatum* are of low order, that possibly the organism may be found to be a normal inhabitant of the intestines of ducklings, and, further, that the capacity to become pathogenic depends upon the operation of some predisposing factor, as in this case, feeding with fermented foods. Having acquired pathogenic properties, the bacterium rapidly causes an enzoötic which is kept in being by the presence of ducklings of the susceptible age. In this outbreak the absence of susceptible ducklings for a period of a few weeks was sufficient, after the removal of the predisposing factor, to stop the outbreak.

---

CALCIFICATION OF THE MYOCARDIUM IN DOMESTIC ANIMALS.

W. S. Tschermiak and S. Voronzov. *Abst. Arch. Path.*, x (1930), 3, p. 470.

According to the authors, calcification of the myocardium, mostly in the papillary muscles of the left side of the heart, is not rare in horses and dogs. The inflammatory reaction obviously is secondary to the calcification. It is interesting to note that in four dogs which died of distemper, such calcification was found.

---

STUDIES ON INFLAMMATION. IV. Fixation of Foreign Protein at Site of Inflammation. Valy Menkin. *Jour. Exp. Med.*, xlvi (1930), 2, p. 201.

Foreign protein, such as horse serum injected into an inflamed peritoneal cavity, penetrates into the blood-stream less rapidly than when introduced into the normal cavity. Foreign protein injected into a cutaneous inflammatory area is held *in situ* for a longer period than when injected into an inflamed peritoneal

cavity. Foreign protein introduced into the circulating blood-stream accumulates in an inflamed area, where it is found in greater concentration than in normal tissue. Accumulation of foreign protein at the site of inflammation explains the phenomenon of local anaphylaxis described by Auer in rabbits sensitized to horse serum. The antigen accumulating in the inflamed area reacts with antibody, intensifies a pre-existing inflammatory reaction, and produces necrosis of the area.

---

MUCOR MYCOSIS IN SWINE. M. Christiansen. *Abst. Arch. Path.*, x (1930), 3, p. 481.

Mold diseases in domestic animals are even more rare than in man. In nine hogs that were about six months old, tumor-like masses and abscesses were present in the abdomen, mostly, coming from the mesenteric lymph-nodes. There were smaller nodes in the liver and the lungs, some animals had intestinal ulcers with thick margins; occasionally, nodules in other organs and extra-abdominal, mostly cervical, lymph-nodes were found. The intestinal lesions sprang from the plaques of Peyer. Seven of the nine animals came from one slaughter-house. Single animals had the disease while others from the same litter were free. The hyphae of the fungi were easily found in fresh specimens. Pure cultures were obtained from all animals. The cultures were highly pathogenic for rabbits, guinea pigs, rats and mice but were not pathogenic for sparrows and pigeons. Rabbits after intravenous injection developed labyrinthine symptoms, as described in *Aspergillus* infection. Inoculation of young pigs and of a pregnant sow did not lead to development of the disease. Some of the young animals died after intravenous injection and subcutaneous injection occasionally led to a localized abscess.

---

EXPERIMENTAL CRYPTORCHIDISM OF PIGS. V. Korencheosky. *Jour. Path. & Bact.*, xxxiii (1930), 3, p. 683.

Two domestic pigs were made cryptorchid and compared with two castrated litter mates. The final weight of the cryptorchid pigs was greater than that of the castrated pigs by 13.2 per cent. The amount of retroperitoneal fat, but not that of subcutaneous fat, was slightly increased in cryptorchid pigs. The cryptorchid pigs looked more hairy than the castrates. Histologically, in the cryptorchid testes the semeniferous tissues seemed to have disappeared, the Sertoli's cells were normal, while the hyperplasia of Leydig's cells was greater than in any other species of animal made cryptorchid.

## PUBLICATIONS RECEIVED

- Recommendations of the Bureau of Animal Industry on Problems of Livestock Production. John R. Mohler. (Misc. Pub. 81. U. S. Dept. Agr., Washington, D. C., 1930.) pp. 14.
- Amendment to the Food and Drugs Act of June 30, 1906. (S. R. A., F. D. No. 1, Rev. 9, Supp. 1. U. S. Dept. Agr., Washington, D. C., 1930.) p. 1.
- Sex Hormones in the Blood Serum of Mares. II. The Seras of Mares from the 222nd Day of Pregnancy to the First Heat Period Postpartum. H. H. Cole and G. H. Hart. Reprint from *Amer. Jour. Physiol.*, xciv (1930), 3, pp. 597-603.
- Tuberculosis Must Go. (Revised edition.) Edgar W. Cooley. Agr. Ext. Dept., International Harvester Co., Chicago, Ill. Illustrated. pp. 66.
- Undulant Fever or Brucellosis. (Spec. Bul. 20, Calif. Dept. of Public Health, Sacramento, Calif., 1930.) pp. 13.
- Sheep-Killing Dogs. V. L. Simmons. (Farmers' Bull. 1268. U. S. Dept. Agr., Washington, D. C., 1930.) Illustrated. pp. 33.
- Les Schistosomes Rares de l'Afrique Du Sud. F. G. Cawston. Reprint from *Annales de Parasitologie*, viii (1930), 3-4, pp. 259-262.
- The Association of *Bacterium Abortus* Bang with Hygroma of the Knee of Cattle. W. L. Boyd, A. L. Delez and C. P. Fitch. Reprint from *Corn. Vet.*, xx (1930), 3, pp. 263-369.
- Monovalent and Polyvalent Antigens for Use in the Diagnosis of Bang's Disease. C. P. Fitch, C. R. Donham and Lucille Bishop. Reprint from *Proc. of the Society for Exp. Biol. and Med.*, xxvii (1930), pp. 553-555.
- The Uses of Iodine and Its Compounds in Veterinary Medicine. (Bul. 1. Iodine Educational Bureau, New York, N. Y., 1930.) pp. 32.
- The Importance of Solar Radiation in the Development of Growing Pigs. A. M. Shaw. Reprint from *Scient. Agr.*, xi (1930), 1, pp. 8.
- Decision of Supreme Court of Iowa on Bovine Tuberculosis Eradication. Iowa Dept. of Agr., Des Moines, Iowa, 1930. pp. 15.
- Outlines for Studies of Mammalian Life Histories. Walter P. Taylor. (Misc. Pub. 86. U. S. Dept. Agr., Washington, D. C., October, 1930.) pp. 12.
- Directory of Officials and Organizations Concerned with the Protections of Birds and Game; 1930. Talbott Denmead and Frank G. Grimes. (Misc. Pub. 92. U. S. Dept. Agr., Washington, D. C., October, 1930.) pp. 13.
- New York State Veterinary College for 1930-31, Announcement of the. Cornell University Official Publication, xxi (1930), 14. Ithaca, N. Y., April 1, 1930. pp. 35.
- The Production of Fever in Man by Short Radio Waves. Charles M. Carpenter and Albert B. Page. Reprint from *Science*, lxxi (1930), 1844, pp. 450-452.
- Brucella Abortus* Agglutinins in Porcine Blood. R. A. Boak and C. M. Carpenter. Reprint from *Jour. Inf. Dis.*, xlvi (1930), 5, pp. 425-429.
- The Effect of Heat Produced by an Ultra-High Frequency Oscillator on Experimental Syphilis in Rabbits. C. M. Carpenter and R. A. Boak. Reprint from *Amer. Jour. Syphilis*, xiv (1930), 3, p. 346.
- A Comparative Study of Vaccination with Living Tuberclle Vacilli and with Special Reference to B. C. G. E. A. Watson. (Presented at the Eleventh International Veterinary Congress, London, England, 1930.) pp. 30.
- Union of South Africa, Sixteenth Report of the Director of Veterinary Services and Animal Industry. Onderstepoort, Pretoria, Union of South Africa, August, 1930. Illustrated. pp. 592.
- Fur Laws for the Season 1930-31. Frank G. Grimes. (Farmers' Bul. 1648. U. S. Dept. Agr., Washington, D. C., October, 1930.) pp. 30.



### Regular Army

The promotion of 2nd Lieutenants Charles S. Greer and John L. Owens to the grade of 1st Lieutenant is announced.

Major Jesse D. Derrick is relieved from duty at Fort D. A. Russell, Tex., and directed to proceed to San Francisco, Calif., and sail on the transport scheduled to leave that port on or about Feb. 4, 1931, for the Philippine Department.

Major Christian W. Greenlee is assigned to duty at Fort D. A. Russell, Tex., effective upon completion of his present tour of foreign service in the Philippine Department.

The retirement of Lt. Colonel Herbert S. Williams for physical disability, effective October 31, 1930, is announced.

First Lt. Elmer W. Young is relieved from duty at Fort Lewis, Wash., and directed to proceed to San Francisco, Calif., and sail on the transport scheduled to leave that port on or about Feb. 4, 1931, for the Philippine Department.

First Lt. H. R. Leighton is assigned to duty at Fort Lewis, Wash., effective upon completion of his present tour of foreign service in the Philippine Department.

First Lt. L. R. Bower is relieved from duty at Fort Sam Houston, Texas, and directed to proceed to San Francisco, Calif., and sail on the transport scheduled to leave that port on or about Feb. 4, 1931, for the Philippine Department.

First Lt. Verne C. Hill is assigned to duty at Madison Barracks, N. Y., effective upon completion of his present tour of foreign service in the Philippine Department.

Colonel E. J. Cramer, upon his own application, has been ordered to proceed to his home on or about December 31, 1930, to await retirement.

### Veterinary Reserve Corps

#### *New Acceptances*

Harden, James Henry.....1st Lt....195 Berry St., Brooklyn, N. Y.  
 Howell, Leslie James.....1st Lt....Route 1, Kansas City, Kans.  
 Milman, Maurice Howard...1st Lt....1530 E. 33rd St., Brooklyn, N. Y.  
 Morgan, Donald Richard...2nd Lt....513 W. 23rd St., Vancouver, Wash.

#### *Promotions*

To:

Gillie, Peter Taylor.....Major...2585 East Ave., Columbus, Ohio  
 Williamson, Wallace LeRoy Major...401 W. Winona St., Austin, Minn.  
 Lee, Chester Daniel.....Capt....Iowa State College, Ames, Ia.  
 O'Flaherty, Fred.....Capt....Box 291A, RFD 12, Cincinnati, Ohio  
 Vornheder, Albert Wm.....Capt....Sta. F., RFD No. 2, New Orleans, La.  
 Jeffers, Boyd.....1st Lt....206 E. 2nd St., Lexington, Ky.

### Army Veterinary Officers to Meet

At the 1930 A. V. M. A. convention in Los Angeles, there was a meeting of army veterinary officers, both active and reserve, to plan for a program and meeting of veterinary officers to be held in connection with the 1931 convention in Kansas City. The following committee has been selected to prepare a program that is now under way: Lt. Col. N. S. Mayo, Res.; Capt. J. A. McCallum, V. C., and Capt. Wm. G. Keehn, Res. Suggestions from veterinary officers and others will be appreciated and may be sent the chairman, 484 Sheridan Place, Highland Park, Ill.

---

### New Hog Film Released

"How to Grow Hogs," a new two-reel motion-picture sponsored by the Bureau of Animal Industry and recently released by the U. S. Department of Agriculture, deals with economical methods of hog production. It shows the farmer how to grow hogs, and even the most experienced producer may learn from the film some points which he has overlooked or about which he has grown careless.

The picture shows fine specimens of Duroc-Jersey, Poland China, Chester White and Tamworth boars, sows and gilts. It also illustrates approved practices in feeding, pasturing, farrowing and weaning pigs, and in the prevention of parasitic and other diseases. There are scenes of pictorial beauty, such as views of the Experiment Farm at Beltsville, Md., hogs feeding on alfalfa and clover, and a sow with her litter, appropriately captioned, "Contentment Reigns Supreme."

This film is of special interest to hog-raisers and to farmers who may be considering this branch of stock-raising. It may be borrowed from the Office of Motion Pictures, U. S. Department of Agriculture, Washington, D. C., and is free except for transportation charges both ways.

---

### Two Big Meetings in the South

The 1931 meeting of the Southern (formerly Southeastern) States Veterinary Medical Association will be held at Birmingham Alabama, January, 19-20. The 1931 Southwestern Tuberculosis Conference will be held jointly with the annual meeting of the Mississippi Veterinary Medical Association, in Jackson, on the two days following, January 21-22.

## MISCELLANEOUS



### THE WORLD-WIDE BATTLE AGAINST TUBERCULOSIS

*By PHILIP P. JACOBS*



War, commerce and missionary effort, so unlike in aims and motives, have this in common: They have all been spreaders of disease. The close contacts brought about by these varied activities have carried such diseases as tuberculosis from the older civilizations of the world to the newer ones. Thus, in many instances, conquest at arms has not always been beneficial to the conquerors.

Tuberculosis, for example, has apparently followed through the last four or five thousand years, in the wake of war, commerce and missionary zeal. From the earliest historic civilization in the valleys of the Euphrates, the Tigris and the Nile, to Jerusalem, Greece, Rome, India and China, tuberculosis has spread, and then eventually followed the path of civilization around the world. Today there is not a country where tuberculosis is not present and among most of the still primitive people of the several continents it has also begun its deadly work.

The marked improvement in social and economic standards of European and American peoples has done much during the last fifty years to combat tuberculosis. But more potent apparently have been the organized activities of the tuberculosis and other health agencies around the world in the reduction of deaths from this disease. The double-barred cross, the international emblem of the fight against tuberculosis, has literally circled the globe.

Today, in every European country, in most of the Asiatic nations, in Africa, Australia and the South Sea islands, as well as the South American countries, organized tuberculosis activities under the aegis of the double-barred cross are fighting the

White Plague with grim vigor that is having its effect in the reduction of the death-rate.

Among the many methods that have been used to fight tuberculosis, not the least important has been the employment of tuberculosis Christmas seals. The idea of the Christmas Seal, beginning in Denmark, in 1904, has gone like wildfire from one end of the world to the other. Even in far off Japan, where there is no real Christian Christmas, Christmas seals are sold.

Last June, there met in Paris a group of earnest workers in the tuberculosis campaign from various countries in different parts of the world to organize an International Congress on Christmas Seals and to establish a permanent bureau in Paris for the interchange of ideas regarding this method of fighting tuberculosis and promoting public health.

Here in the United States, the campaign against tuberculosis with the Christmas Seal as the leading means of support, is organized not only in every state of the Union, but also in the Canal Zone, Porto Rico, Hawaii and the Philippine Islands and in practically all of the other American possessions, with the exception of Alaska. In this territory, because of difficulties of transportation, little has been done, although the need, especially among the native peoples, is tremendous.

At Oslo, Norway, last August, the International Union Against Tuberculosis held its biennial meeting, bringing together representatives from leading nations of the world.\*

When you buy Christmas Seals in the United States, or when you participate in the campaign against tuberculosis in any way whatever, do not forget that your contribution is not merely one of local significance; it is a contribution that unites you with others fighting tuberculosis in every part of the civilized world.

---

#### Laws Needed to Control Sheep-Killing Dogs

Legislation, if properly enforced, is the most effective method of dealing with the sheep-killing-dog problem, although dog-proof fences for night pastures help to prevent losses to flock-owners. Several states have laws which give reasonable protection to sheep-owners, but dog laws may fail in their purpose if enforcement is lax. Suggestions for the formulation of effective dog laws appear in Farmers' Bulletin 1268-F, "Sheep-Killing-Dogs," which has just been issued in revised form by the U. S. Department of Agriculture.

---

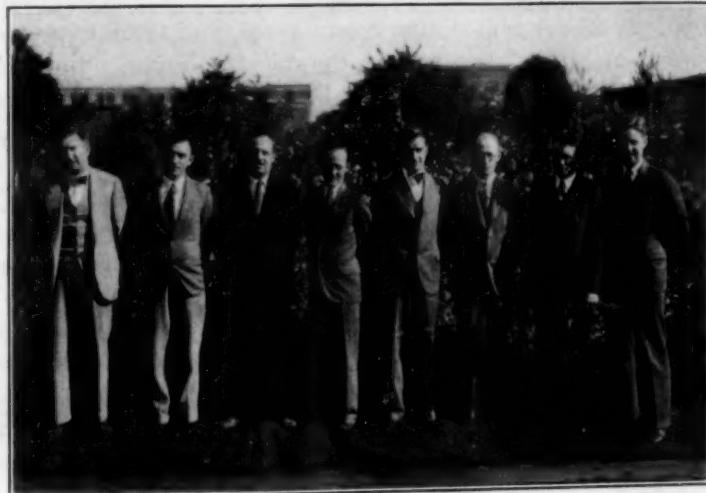
\*See the JOURNAL, November, 1930, p. 659.

One of the most important considerations in formulating a dog law, the bulletin shows, is to obtain the moral support of the people. An unjust law does not have the support of the people, and without their support officers will not enforce the law. Effective dog laws, when properly enforced, limit the number of stray dogs, control their rovings, and provide a fund from which sheep-owners may be compensated for losses. The dog law of Michigan, published in full in the bulletin, is an example of one which offers protection.

The bulletin may be obtained free from the Office of Information, U. S. Department of Agriculture, Washington, D. C.

#### Corvallis Claims a Record

Corvallis, Oregon, claims a world's record. There were eight veterinarians from Corvallis registered at the recent convention of the A. V. M. A. in Los Angeles. Now then, if there is another town in the United States, or in the world, for that matter, with a population no larger than Corvallis, that ever had eight members in attendance at an A. V. M. A. convention, we would like



THE CORVALLIS VETERINARY OCTETTE

to hear from that town. As exhibit 1, in connection with this claim, we present a photograph of the Corvallis veterinary octette. From left to right they are: Drs. J. N. Shaw (Wash. '17), F. C. Myers (Colo. '24), A. M. McCapes (Colo. '27), F. M. Bolin (Iowa '29), O. H. Muth (Mich. '29), W. T. Johnson (Wash. '17), B. T. Simms (A. P. I. '11) and E. M. Dickinson (O. S. U. '20).



## INTER-STATE VETERINARY ASSOCIATION

The annual meeting of the Inter-State Veterinary Association was held at the Martin Hotel, Sioux City, Iowa, October 9-10, 1930. Dr. J. M. Lichtry, of Sioux City, presided. The minutes of the previous meeting were read by Dr. G. P. Statter, and approved.

The program was opened by Dr. H. Preston Hoskins, secretary-editor of the American Veterinary Medical Association, who spoke on several matters of interest to veterinarians in this territory, particularly the 1931 meeting of the national organization, to be held in Kansas City, Missouri. Dr. Hoskins reported that the membership of the A. V. M. A. had increased practically 25 per cent during recent years, and there were now approximately 4600 members on the roll, the largest number in the history of the Association. Dr. Hoskins commented on certain features of the Los Angeles convention and incidentally mentioned the report of the A. V. M. A. Committee on Education, which very clearly indicated that it would be necessary for our veterinary colleges to double the number of veterinarians graduated during the past ten-year period, if we are to maintain our present numerical strength of approximately 10,000.

Later in the meeting an opportunity was offered to get an expression of opinion by the veterinarians present as to the best dates for the Kansas City meeting of the A. V. M. A., in 1931. Dr. L. U. Shipley, of Sheldon, Iowa, moved that the Association go on record as favoring some date in October. This motion was carried unanimously by a standing vote.

The tuberculosis situation in Iowa was presented by Dr. J. A. Barger, of Des Moines, B. A. I. inspector-in-charge of tuberculosis eradication in Iowa. Dr. Barger stated that the employment of local practicing veterinarians in connection with tuberculin testing in Iowa, had proved to be very satisfactory. Dr. Peter Malcolm, State Veterinarian, discussed the same subject and

presented data on the number of reactors being disclosed as the work progresses. Dr. Malcolm also spoke on the recent decision of the Supreme Court in the famous Mitchell County case.

Hon. Mark G. Thornburg, secretary of the Iowa Department of Agriculture, thanked the veterinarians for their splendid cooperation in tuberculosis eradication work in the State. He expressed the opinion that there would probably be no more litigation in connection with tuberculosis eradication. Of the 99 counties in Iowa, 54 are now clean, and this number will probably reach 60 by January 1, 1931. A large part of the work is now being done by local veterinarians, according to Mr. Thornburg. Dr. Hoskins referred briefly to the recent meeting held in East Lansing, Mich., to celebrate the victory over bovine tuberculosis, as a result of which Michigan is now a tuberculosis-free area.

Dr. Louis D. Mersch, executive secretary of the Iowa Veterinary Association, then presented a paper, entitled, "Cooperation with Veterinarians," that had been prepared by Mr. H. M. Nichols, county agent of Humboldt County, and presented at the seventeenth annual meeting of the Eastern Iowa Veterinary Association, in Cedar Rapids, the day before. This paper reported cooperative work in connection with swine production, bot-fly eradication, tuberculosis eradication and combating nostrum peddlers.

At the opening of the afternoon session, Dr. F. H. Kelly, of Goldfield, Iowa, discussed the paper by County Agent Nichols, and then went more deeply into the subject of bot-fly eradication and control in Wright County, where Dr. Kelly is located.

Dr. R. R. Dykstra, Dean, Division of Veterinary Medicine, Kansas State Agricultural College, then discussed cattle practice, dealing with both medical and surgical cases. Dr. Dykstra included shipping fever and preventive vaccination; epidural anesthesia for both minor and major operations in cattle; rumenotomy in cattle; foot-rot, dehorning and excision of the eye-ball.

Dr. Louis D. Mersch presented a paper, entitled, "What Iowa Expects to Accomplish with a Full-Time Secretary," in which a report was given covering things already accomplished, as well as a program outlined for future activities. Dr. P. L. Cady, of Arlington, Nebraska, discussed "Problems Encountered in Handling Feeder Sheep and Lambs." He was followed by Dr. F. M. Cowden, of Craig, Nebraska, who discussed the use of the emasculatome. The meeting recessed at 5:00 p. m.



## INTER-STATE VETERINARY ASSOCIATION

The annual meeting of the Inter-State Veterinary Association was held at the Martin Hotel, Sioux City, Iowa, October 9-10, 1930. Dr. J. M. Lichty, of Sioux City, presided. The minutes of the previous meeting were read by Dr. G. P. Statter, and approved.

The program was opened by Dr. H. Preston Hoskins, secretary-editor of the American Veterinary Medical Association, who spoke on several matters of interest to veterinarians in this territory, particularly the 1931 meeting of the national organization, to be held in Kansas City, Missouri. Dr. Hoskins reported that the membership of the A. V. M. A. had increased practically 25 per cent during recent years, and there were now approximately 4600 members on the roll, the largest number in the history of the Association. Dr. Hoskins commented on certain features of the Los Angeles convention and incidentally mentioned the report of the A. V. M. A. Committee on Education, which very clearly indicated that it would be necessary for our veterinary colleges to double the number of veterinarians graduated during the past ten-year period, if we are to maintain our present numerical strength of approximately 10,000.

Later in the meeting an opportunity was offered to get an expression of opinion by the veterinarians present as to the best dates for the Kansas City meeting of the A. V. M. A., in 1931. Dr. L. U. Shipley, of Sheldon, Iowa, moved that the Association go on record as favoring some date in October. This motion was carried unanimously by a standing vote.

The tuberculosis situation in Iowa was presented by Dr. J. A. Barger, of Des Moines, B. A. I. inspector-in-charge of tuberculosis eradication in Iowa. Dr. Barger stated that the employment of local practicing veterinarians in connection with tuberculin testing in Iowa, had proved to be very satisfactory. Dr. Peter Malcolm, State Veterinarian, discussed the same subject and

presented data on the number of reactors being disclosed as the work progresses. Dr. Malcolm also spoke on the recent decision of the Supreme Court in the famous Mitchell County case.

Hon. Mark G. Thornburg, secretary of the Iowa Department of Agriculture, thanked the veterinarians for their splendid cooperation in tuberculosis eradication work in the State. He expressed the opinion that there would probably be no more litigation in connection with tuberculosis eradication. Of the 99 counties in Iowa, 54 are now clean, and this number will probably reach 60 by January 1, 1931. A large part of the work is now being done by local veterinarians, according to Mr. Thornburg. Dr. Hoskins referred briefly to the recent meeting held in East Lansing, Mich., to celebrate the victory over bovine tuberculosis, as a result of which Michigan is now a tuberculosis-free area.

Dr. Louis D. Mersch, executive secretary of the Iowa Veterinary Association, then presented a paper, entitled, "Cooperation with Veterinarians," that had been prepared by Mr. H. M. Nichols, county agent of Humboldt County, and presented at the seventeenth annual meeting of the Eastern Iowa Veterinary Association, in Cedar Rapids, the day before. This paper reported cooperative work in connection with swine production, bot-fly eradication, tuberculosis eradication and combating nostrum peddlers.

At the opening of the afternoon session, Dr. F. H. Kelly, of Goldfield, Iowa, discussed the paper by County Agent Nichols, and then went more deeply into the subject of bot-fly eradication and control in Wright County, where Dr. Kelly is located.

Dr. R. R. Dykstra, Dean, Division of Veterinary Medicine, Kansas State Agricultural College, then discussed cattle practice, dealing with both medical and surgical cases. Dr. Dykstra included shipping fever and preventive vaccination; epidural anesthesia for both minor and major operations in cattle; rumenotomy in cattle; foot-rot, dehorning and excision of the eye-ball.

Dr. Louis D. Mersch presented a paper, entitled, "What Iowa Expects to Accomplish with a Full-Time Secretary," in which a report was given covering things already accomplished, as well as a program outlined for future activities. Dr. P. L. Cady, of Arlington, Nebraska, discussed "Problems Encountered in Handling Feeder Sheep and Lambs." He was followed by Dr. F. M. Cowden, of Craig, Nebraska, who discussed the use of the emasculatome. The meeting recessed at 5:00 p. m.

A banquet was served at 7 o'clock, followed by a dance which was sponsored by the following commercial firms: Allied Laboratories, Corn States Serum Company, Fort Dodge Serum Company, Jen-Sal Laboratories, Norden Laboratories, Tobias & Cairy, and Grain Belt Serum Company. Dr. G. P. Statter acted as toastmaster, and called upon Dr. H. D. Bergman, of Iowa State College, who gave a very interesting account of the International Veterinary Congress and the A. V. M. A. tour of Europe.

The morning session, the second day, was convened at 10 o'clock, and Dr. F. M. Breed, of Lincoln, Nebraska, presented a paper on diseases of swine, in which he discussed dermatitis, belladonna poisoning, anthrax, malignant edema, swine erysipelas, large joints and pulmonary edema.

The election of officers for the ensuing year resulted as follows: President, Dr. P. L. Cady, Arlington, Nebraska; vice-president, Dr. D. L. Cotton, Beresford, South Dakota; secretary and treasurer, Dr. P. L. Ellis, Merrill, Iowa.

At the afternoon session Dr. L. A. Merillat, of Chicago, presented a paper, entitled, "Veterinary Surgery of the Hour." This covered the very latest developments in the field of veterinary surgery.

G. P. S.

---

#### MICHIGAN DIVISION OF NATIONAL ASSOCIATION OF B. A. I. VETERINARIANS

At a well attended meeting of the Michigan Division of the National Association of B. A. I. Veterinarians, held in Detroit, October 7, 1930, Dr. E. T. Hallman, Professor of Animal Pathology, Michigan State College, discussed with evident interest to all present "The Defense Mechanism in Disease." The consensus of opinion of his listeners was that there could not have been a more fascinating subject selected in the field of pathology than the one Dr. Hallman so ably presented and he is to be congratulated upon the choice of his subject.

J. E. ZELTZER, *Secretary.*

---

#### ONTARIO VETERINARY ASSOCIATION

One of the most successful meetings that the Ontario Veterinary Association has held in recent years took place on October 22-23, 1930. The first day was devoted to the presentation of a number of papers and the discussion of the subjects dealt with in

each address. The meeting was called to order at 1:30 p. m. and Dr. H. E. Batt, of the Ontario Veterinary College, gave a short address of welcome to the members of the Association. This was followed by the presentation of minutes of the last semi-annual meeting by the Secretary-Treasurer, Dr. H. M. LeGard.

Dr. Mumford, of Toronto, then introduced Dr. G. S. Muir, of Wellesley, who presented a paper along with Dr. H. M. LeGard, dealing with the treatment of milk fever with calcium salts. Dr. Muir dealt with the use of calcium gluconate in the treatment of this disease, citing a number of cases in which he had used this agent and which had brought about a cure without inflation. Dr. LeGard immediately followed, with a similar outline of cases treated successfully by the use of a calcium chlorid solution. Their addresses were followed by a discussion of the etiology of the disease and calcium metabolism by Dr. R. A. McIntosh. Other members of the Association also entered into the discussion of this subject.

The next address was given by Dr. Seymour Hadwen, Director of Veterinary Research at the Ontario Research Foundation, in Toronto. It was on the subject of "Melanosis with Special Reference to Horses," and illustrated with lantern-slides. Considerable discussion followed by Drs. Kingscote, Schofield, and others. The other paper was to have been given by Dr. C. A. Mitchell, of the Health of Animals Branch, at Ottawa, but owing to illness he was unable to be present and his paper was read by Dr. R. Gwatkin, of the Ontario Research Foundation. The subject of the paper was "A Febrile Disease of Horses," and in the discussion which followed it was felt that in all probability the condition referred to was very similar in character to the well-known swamp fever of horses.

"The Veterinarian, his Relationship to his Community, Clientele and Profession" was the subject of an address by Dr. H. R. Potter, of Niagara Falls. In the course of his remarks Dr. Potter pointed out the necessity of closer coöperation among various branches of veterinary science and also an endeavor on the part of the members of the profession to bring before the public the usefulness and the place which a modern veterinarian occupies in a community. His paper was well received and brought out considerable discussion along similar lines.

The evening session was held in the Assembly Room of the Y. W. C. A., where a banquet had been prepared and at which a number of vocal and instrumental items were rendered. The

speakers of the evening were Mr. J. B. Fairbairn, Deputy Minister of Agriculture for Ontario; Dr. G. I. Christie, President, Ontario Agricultural College, Guelph, and Dr. C. D. McGilvray, Principal of the Ontario Veterinary College. Mr. Fairbairn and Dr. Christie spoke along the lines of agriculture and indicated their appreciation of veterinary science in the science of animal husbandry. Dr. McGilvray gave a résumé of his trip to the International Veterinary Congress, held in London, England, this year. In his remarks he described the status of the profession and also spoke about the different colleges which he visited in the old country.

The second day was devoted entirely to clinical demonstrations. These commenced at 9 a. m. and were continued until 5 p. m. In all, sixteen cases were handled and presented to the audience for consideration. All those present expressed their delight and pleasure at the manner in which the clinic was handled. A great deal of credit is due to Dr. W. J. R. Fowler for the expeditious handling of these cases. The first clinical demonstration was fowl-pox vaccination, by Dr. J. S. Glover, of the Ontario Veterinary College. Cryptorchid castration in a bull and a scrotal hernia operation in a pig by Dr. G. S. Muir were the next two items. These were followed by a demonstration of sodium amytol anesthesia in dogs, conducted by Dr. H. S. Macdonald, of Toronto, and Dr. F. E. McClelland, of Buffalo, N. Y. A fistulous withers operation was then performed by Dr. D. R. Caley, of Orillia.

Burdizzo castration in a bull was performed by Dr. McIntosh. This was followed by castration of a boar in which scrotal adhesions were very pronounced. In the afternoon three bitches were spayed by Drs. Cote, McIntosh and McClellan. A pharyngeal abscess in a dog and corneal opacity treatment were demonstrated by Dr. Rumney, of Hamilton. A rumenotomy operation was performed by Dr. Caley and a cryptorchid pig was operated on by Dr. McIntosh. A discussion of a case of thrush and canker in a horse's foot was placed before the meeting by Dr. Fowler. The last item on the program was a postmortem examination of a young pig which had evidently died from a pectoral form of hemorrhagic septicemia.

All those present expressed themselves as being delighted with the nature and character of the papers presented and of the clinical material on which demonstrations were made.

R. A. MCINTOSH.

## PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION

The program of the forty-eighth annual meeting of the Pennsylvania State Veterinary Medical Association, held at Philadelphia, October 23, 1930, included an address on "Veterinary Surgery in 1930," by Dr. L. A. Merillat, of Chicago, Ill. With the assistance of a few notes, Dr. Merillat commented on the art and his own impressions during the past thirty years, in an entertaining manner. Undoubtedly surgery, as a part of veterinary medicine, has its place and offers opportunities for the development of skill and talent for those inclined to specialize in this field.

Dr. F. S. Jones, of the Rockefeller Institute, Princeton, N. J., followed Dr. Merillat with a talk on "Mastitis," in which he emphasized the cause of the affliction. Dr. Jones touched upon the symptoms, and then sketched and enlarged on the histological difference between the parenchymatous and catarrhal types. The role of non-hemolytic and hemolytic streptococci, with reference to the types of the disease and their effect on the milk, invited comments in the field of bacteriology, immunology and epidemiology. He spoke of the relationship of septic sore throat and scarlet fever of man as milk-borne diseases. It is from the point of view of a bacteriologist that mastitis is being investigated by Dr. Jones. Bacteriology has its place in veterinary medicine, and veterinarians, with the necessary skill and knowledge, find it without limits as to opportunities.

The set program for the second day of the meeting included the title, "The Relationship of the Two Fields of Medicine," by Dr. Fred Boerner, Graduate School of Medicine, University of Pennsylvania, but an arrangement was effected which permitted Dr. Boerner to follow Dr. Jones. Then followed Dr. Merillat, the animal surgeon; Dr. Jones, the bacteriologist, and Dr. Boerner, the veterinarian, whose training in laboratory diagnostic tests qualifies him as an expert. Dr. Boerner's actual experience is a living example of the veterinarian with medical leanings and he spoke with first-hand knowledge of the relationship between veterinarians and physicians. That there is a close relationship is admitted, and it is true that much good would come from the dissemination of more knowledge from one field to the other.

To complete further the range under veterinary medicine, veterinarians with decided agricultural dairy and animal husbandry interests, and also those with leanings toward the chemical, biological and parasitological sciences, should have been heard from. The "veterinary medicine" of the veterinarian is many-sided and quite definite in itself.

Dr. H. Preston Hoskins, secretary of the American Veterinary Medical Association, when called upon to discuss Dr. Boerner's remarks, emphasized the entity of veterinary medicine, and he spoke of a triangle with agriculture in one corner, medicine in another and veterinary medicine in the other. From the corner of veterinary medicine, leanings or relationships are to be emphasized with agriculture on the one side and medicine on the other, with restraint on the tendency to drift to either.

It was not surprising that Dr. Hoskins, a life-long student of the subject, did express himself so clearly on the entity, solidity and place of veterinary medicine. Dr. Maurice C. Hall, president of the American Veterinary Medical Association, gave further utterance to this basic understanding in his address at the evening session of the meeting.\* While the place of veterinary medicine in the sciences is definite, its relationships with other fields are often confused and the leanings misunderstood. An agricultural student, who later qualifies as a veterinarian, may prefer to engage in veterinary medicine as a practitioner with agricultural leanings. Those interested in the breeding of live stock include the group of veterinarians who may specialize in surgery, while those with laboratory preference—chemists, bacteriologists, serologists, immunologists—comprise the group of veterinarians who may or may not have medical leanings.

This undoubtedly is as it should be and emphasizes the many opportunities in the field of veterinary medicine, in which good work, and lots of it, alone stands for progress and success.

JOHN REICHEL.

### The Dean Dinner

The Dean Dinner was held in Pearson Hall, at six o'clock, October 23. There were 104 guests, most of whom were friends of the present or former dean of the School of Veterinary Medicine. Among the well-known guests at the speakers' table were Dr. Maurice C. Hall, president, and Dr. H. Preston Hoskins, secretary, of the American Veterinary Medical Association; Mr. J.

See "The Future of the Veterinary Profession." in this issue of the JOURNAL, p. 746



The Dean Dinner, University of Pennsylvania.

Bertram Lippincott; Dr. J. W. Connaway, of the University of Missouri, and Dr. C. W. Springer, president of the Pennsylvania State Veterinary Medical Association. The dinner was given as a compliment to Dr. L. A. Klein, the former Dean, and Dr. H. E. Bemis, his successor. Dr. C. J. Marshall acted as toastmaster.

The cover of the menu card (reproduced on the opposite page) carried a picture of each of the five deans of the School, beginning with Dr. Rush Shippen Huidekoper. It gave the names and dates of their service. Dr. Josiah H. Penniman, Provost of the University, was unable to be present but he sent the following communication, which was read by the toastmaster:

Will you please express to the gentlemen present at the dinner on the evening of October 23 my very great regret that University duties take me to another part of the State that evening. I wish to thank the retiring Dean, Dr. Klein, for the long years of loyal and efficient service that he rendered the University as Dean of the Department of Veterinary Medicine, some of the time serving under the handicap of ill-health, but always efficiently and cheerfully. The relief from duties of the Deanship is thoroughly earned.

To the new Dean, Dr. Bemis, I wish to say that he takes up the duties with the full confidence of his faculty and with the cordial approval of the University itself. His important standing in the profession and, particularly, his scientific attainments mark him out as thoroughly qualified to conduct the school on a very high plane. In a professional school there is much more than the mere training of men to become practitioners. There must also be an atmosphere of scientific curiosity and the stimulating influence of teachers who are seeking to increase the knowledge of their subjects, if the school is to be in any way noteworthy. I am sure that with our present faculty this atmosphere is to be found in the School of Veterinary Medicine, and I look forward with keen pleasure to the further development of the enterprises already undertaken under the leadership of Dr. Klein.

Mr. J. Bertram Lippincott, member of the Board of Trustees, was presented and received a warm welcome. The name of Lippincott is a household word in the homes and hearts of all alumni and students of the School of Veterinary Medicine. Among the treasures of Pearson Hall is a bronze tablet to J. Bertram Lippincott, his illustrious father, which bears the following inscription:

TO COMMEMORATE THE HUMANITY OF JOSHUA B. LIPPINCOTT,  
ONE OF THE BENEFACTORS OF THIS UNIVERSITY, TO WHOSE  
LIBERALITY THE VETERINARY SCHOOL MAINLY OWES ITS EXIST-  
ENCE AND SUPPORT. THIS TABLET IS ERECTED A. D. 1886.

THE DEAN DINNER  
OF THE  
PENNSYLVANIA STATE VETERINARY  
MEDICAL ASSOCIATION



Rush Shippen Huidekoper  
1883-1887



H. Edward Bemis  
1930



Leonard Pearson  
1897-1909



John Marshall  
1889-1897



Louis A. Klein  
1910-1930

SCHOOL OF VETERINARY MEDICINE  
UNIVERSITY OF PENNSYLVANIA  
PHILADELPHIA, PA.

THURSDAY 6:00 P. M., OCTOBER 23, 1930

The name Lippincott is not alone famous for what was so well and so generously done by the father, but the family and Mr. J. Bertram Lippincott, especially, have always faithfully and generously maintained the same interest and support that characterized the father.

The first speaker was Dr. Raymond A. Pearson, president of the University of Maryland. The name Pearson belongs in a class with that of the Lippincott family. Dr. Leonard Pearson was Dean of the School and Professor of Veterinary Medicine from 1897 to 1909. He came to the School when his services were greatly needed. He was made Professor of Veterinary Medicine in 1892. President Pearson was younger than Leonard and was familiar with his brother's work at the School and for the State. He related many interesting incidents in the life of Leonard, from the time of his childhood, and dwelt at considerable length on the hard work done by Leonard in getting money from the State and making plans for the new buildings and courses of study for the School.

President Pearson was associated with Dean Bemis at the Iowa State College. He is also familiar with the excellent work that was done by Dr. John Marshall, as dean, before Leonard was appointed to this office. He has known Dr. Klein during his deanship. He paid the highest tribute to the ability and worthfulness of each of these gentlemen.

Dr. T. E. Munce, State Veterinarian of Pennsylvania, was introduced and spoke of his interest in and friendship for Dr. Klein, the retiring dean. Drs. Munce and Klein were associated in work for the Pennsylvania State Live Stock Sanitary Board under Dr. Pearson. Dr. Munce spoke of the close friendship that had always existed between them and congratulated Dr. Klein for the long, faithful and efficient service he had rendered the School for the past twenty years.

Dr. J. H. McNeil, State Veterinarian of New Jersey, the last speaker, gave an interesting address on the subject of his association with Dr. Bemis as a student and teacher at the Iowa State College. The friendship formed at that time has continued up to the present. He wished and prophesied a successful deanship for Dr. Bemis. Several of Dr. McNeil's former students are now deans in some of the best veterinary schools in America.

The guests were disappointed at not having had an opportunity to hear from either Dr. Klein or Dr. Bemis. The hour

of eight o'clock had arrived and the banquet was closed for the evening session of the meeting of the State Association.

C. J. MARSHALL.

### SOUTHERN KANSAS VETERINARY MEDICAL SOCIETY

At a meeting of the Southern Kansas Veterinary Medical Society, held at Room 33 Live Stock Exchange Building, Wichita, Kansas, October 27, 1930, the following officers were elected for the ensuing year: President, Dr. J. I. Kirkpatrick, Sedgwick; vice-president, Dr. L. E. Dietrich, Wichita; secretary-treasurer, Dr. M. L. Dietrich, Newton.

C. W. BARNHART, *Secretary-Treasurer.*

### Doctor Howe Honored

A luncheon in honor of Dr. W. E. Howe, of the U. S. Bureau of Animal Industry, was held November 3, 1930, at Sacramento, California. Doctor Howe assumed the duties of Inspector-in-Charge in California, for the Bureau, on November 1, having served in a similar position at Denver, Colorado, for thirty years.

Among those present at the reception-luncheon were several veterinarians of the federal service, the Chief of the United States Biological Survey in California, and representatives of various branches of the State Department of Agriculture, including a number of veterinarians of the Division of Animal Industry.

The members at the gathering extended a warm welcome to Dr. Howe, and bespoke, for him, success in his new field. They assured him of their full support and cooperation in carrying on his work. California is fortunate in having, for an Inspector-in-Charge of the Bureau forces in the State, a man of such extensive training and wide experience.

Dr. J. P. Iverson, Chief, Division of Animal Industry, California Department of Agriculture, presided at the luncheon.

### For Services Rendered

The installation of a high-class X-ray and fluoroscopic apparatus has just been completed at the School of Veterinary Medicine, University of Pennsylvania. This piece of equipment came to the school through an anonymous giver, who presented it in honor of Dr. Joseph W. Vansant (U. P. '02), Fox Chase, Philadelphia, Pa., for the excellent service he has rendered his community during the past twenty-five years.

# NECROLOGY



## DAVID B. MORGAN

Dr. David B. Morgan, of Neosho, Mo., died suddenly, September 28, 1930. Heart trouble is reported to have been the cause of his demise.

Born at Swansey, Wales, August 18, 1864, Dr. Morgan obtained his veterinary education in Canada and the United States. He was graduated from the Ontario Veterinary College in 1905 and a year later from the McKillip Veterinary College. He then located at Neosho, Mo., and built up a very extensive practice there.

Dr. Morgan joined the A. V. M. A. in 1928. He was a member of the Missouri State Veterinary Association and served for several terms as a member of the Missouri State Board of Veterinary Medical Examiners.

---

## TALMADGE SCOTT MASON

Dr. T. S. Mason, of Helena, Arkansas, was accidentally killed, October 26, 1930, at the Pekin Wood Products Company plant, at West Helena, where he had been employed for about six weeks. Dr. Mason was suffocated while attempting to release a carrier from the sawdust and refuse tank.

Born at Mayfield, Kentucky, December 1, 1887, Dr. Mason was a graduate of the Terre Haute Veterinary College, class of 1915. He located in Helena about two years ago, going there from Tunica, Miss., where he had been in general practice for some time.

Dr. Mason joined the A. V. M. A. early this year. He was a member of the Mississippi State Veterinary Medical Association. He is survived by his widow (née Cora Z. Shaffer), two daughters and four brothers.

---

---

**W. R. EDWARDS**

Dr. W. R. Edwards, of Vicksburg, Miss., died November 8, 1930. He had been in ill health for some time. He was a graduate of the Chicago Veterinary College, class of 1905, and practiced in Vicksburg until about 1919, when he went into the feed business. In the early part of the present year Dr. Edwards had a stroke of paralysis, from which he failed to recover.

Dr. Edwards joined the A. V. M. A. in 1905. A nephew, Dr. I. W. Edwards (Chi. '11), who survives him, is milk inspector for the city of Vicksburg.

---

**D. J. DAVIS**

Dr. D. J. Davis, of Lowell, Mich., died November 9, 1930, at the age of 49. He had been in poor health for several years. Dr. Davis was a graduate of the Grand Rapids Veterinary College, class of 1912, and practiced in Iowa until 1922, when he returned to Michigan. For the past four years he had been manager of Riverview Inn, located on M21, one mile east of Lowell. He is survived by his widow, one daughter, one brother and one sister.

---

**GEORGE PETRIE PENNIMAN**

Dr. George P. Penniman, of Worcester, Mass., died at the Worcester Memorial Hospital, November 20, 1930. He was the oldest practicing veterinarian in Massachusetts.

Born in New Braintree, Mass., Dr. Penniman was the son of one of the early practitioners of veterinary medicine graduated from Dr. Dadd's veterinary school, known as the Boston Veterinary College, chartered in 1855.

Dr. Penniman attended the American Veterinary College in New York City and was graduated in 1877. He joined the A. V. M. A. the same year, but allowed his membership to lapse in 1891. The following year he joined again. He was a charter member of the Massachusetts Veterinary Association, organized in 1882 and chartered in 1884. He was also a charter member of the Massachusetts State Board of Registration in Veterinary Medicine and served as a member of the Board continuously from 1903 until his death.

---

## PERSONALS

### MARRIAGES

Dr. James R. West (U. P. '30), of Milford, Delaware, to Miss Pauline Getz, of Kensington, Pa., at Philadelphia, Pa., July 23, 1930.

Dr. O. H. West (St. Jos. '18), of Kirksville, Mo., to Miss Marguerite Long, of Mexico, Mo., November 12, 1930, at Mexico, Mo.

## PERSONALS

Dr. C. J. Kershaw (Mich. '30) is located at Lapeer, Mich. Address: 99 Court St.

Dr. G. A. Gray (Chi. '13), of Adair, Ill., had his tonsils removed, the latter part of October.

Dr. James R. West (U. P. '30) is located at 219 S. Walnut St., Milford, Del., in general practice.

Dr. Peter H. Canakis (Chi. '16), of Pierre, S. Dak., expects to spend the coming year in Greece.

Dr. J. R. Hockenbury (St. Jos. '19) has located at Windsor, Ill. He formerly practiced in Iowa.

Dr. V. B. Overman (Iowa '28) has requested a change of address from Winchester, Ind., to Lynn, Ind.

Dr. C. J. Whitson (O. S. U. '26), of Wellington, Kans., has been appointed City Milk and Dairy Inspector.

Dr. Stuart C. Lilly (O. S. U. '16) has been appointed veterinarian in the Health Department of Dayton, Ohio.

Dr. O. A. Meyer (Chi. '11), of Alton, Ill., was recently elected commander of the American Legion Post in Alton.

Dr. T. O. Booth (K. C. V. C. '16), of Temple, Texas, is reported to be recovering from an attack of undulant fever.

Dr. C. H. Reading (Mich. '17), of Hopkins, Mich., is taking postgraduate work in pathology at Michigan State College.

Dr. K. B. Sherer (O. S. U. '30) reports a change of address, from Helena, Ohio, R. R. No. 1, to Fremont, Ohio, R. R. No. 7.

Dr. Floyd D. Marquiss (San Fran. '17), formerly located at Berkeley, Calif., is now in Santa Cruz, Calif. Address: 11 Miles St.

■ Dr. I. W. Perry (Chi. '17), who has been located at Warren, Ill., for the past eleven years, has opened an office at Sterling, Ill.

Dr. J. A. Bogue (K. S. A. C. '21) has taken over the hospital and practice of Dr. D. W. Nolan at 1613 E. Douglas, Wichita, Kans.

Dr. P. T. Burnside (O. S. U. '12), of Wellington, Ohio, is planning a new veterinary hospital that will be up to date in every detail.

Dr. W. A. Higgins (O. S. U. '30) has accepted a position as poultry pathologist, with the Larrowe Milling Company, Detroit, Mich.

Dr. George A. Young (K. S. A. C. '12), of Syracuse, Nebr., won the golf tournament recently held by the Nebraska City Country Club.

Dr. Edward R. Braun (Wash. '29) reports a change of address from Eureka, Calif., to Santa Cruz, Calif. Address: 109 S. Branciforte Ave.

Dr. C. L. Campbell (O. S. U. '26), of Decatur, Ill., has purchased the practice and hospital of Dr. Roy H. Wolfe (McK. '08), of South Bend, Ind.

Dr. Santiago Y. Rotea (U. Phil. '17), of Iloilo, Iloilo, P. I., is attending courses given by the Institute of Meat Packing, at the University of Chicago.

Dr. E. G. Lechner (U. P. '18) has been promoted to the office of Director of the Quality Control Department of the Philadelphia Inter-State Dairy Council.

Dr. J. L. Montooth (Chi. '06) has been reappointed Grundy County (Ill.) veterinarian, by the County Board of Supervisors, at an annual salary of \$3,250.

Dr. T. W. Corkery (Chi. '00) has located at Milford, Ill., for general practice. His family is living in Urbana, where several of the children are attending school.

Dr. H. C. Hunter (Ind. '09) has located in Gibson City, Ill., for general practice. Dr. Hunter previously was employed for seven years as county veterinarian.

Dr. Charles F. Starke (U. P. '28), formerly of Chestnut Hill, Philadelphia, Pa., is now associated with Dr. Arthur W. Smith (N. Y. C. V. S. '98), of West Orange, N. J.

Dr. F. D. Egan (Ont. '23), of Detroit, Mich., has opened a new office at 17422 Woodward Avenue. He is continuing his downtown office at 3411 Fourth Avenue.

Dr. James A. Muffly (U. P. '29) has left the employ of the Borden's Farm Products Company, at Caanan, Conn., and located at Lewisburg, Pa., for general practice.

Dr. W. N. Armstrong (Ont. '94), of Concord, Mich., was reelected president of the Jackson County Fair Association, for the tenth consecutive term, at the recent annual meeting.

Dr. Lester R. Barto (U. P. '30), of Douglassville, Pa., has accepted the position of Resident Surgeon at the Veterinary Hospital, University of Pennsylvania, Philadelphia, Pa.

Dr. J. E. Grey (O. S. U. '19), of Elyria, Ohio, has removed to Plain City, Ohio, where he has taken over the practice of the late Dr. Lawrence S. Lane, who died in September.

Dr. R. F. Vermilya (Chi. '06), B. A. I. inspector in charge at Detroit, Mich., is back on the job, after an illness of several months, which included many of the symptoms of undulant fever.

Dr. Daniel DeCamp (K. S. A. C. '29), formerly located in Wichita, Kans., has been transferred to Austin, Minn., and is now stationed at the packing-plant of Geo. A. Hormel & Company.

Dr. T. A. Sigler (Ind. '02), of Greencastle, Ind., delivered a patriotic address at the Cloverdale (Ind.) High School, the evening of November 10, in connection with an Armistice Day program.

Dr. Frank L. Carr (O. S. U. '06), of Alliance, Ohio, has been appointed municipal meat inspector in connection with a new local ordinance, providing for meat, dairy and food inspection, in Alliance.

Dr. Kenneth Ross (Ont. '27) has closed the office and hospital which he opened at 13330 Gratiot Ave., Detroit, in the spring, and has accepted an assistantship with Dr. A. L. Tow (Ind. '18), of Detroit.

Dr. Connor D. Smith (Mich. '30) has selected Standish, Mich., as a location for general practice. Dr. Smith was in charge of the practice of Dr. R. D. Rice (Chi. '09), of Maple Rapids, while the latter spent the summer in California.

Dr. L. H. Dunn (McK. '18) has purchased a small grapefruit ranch near Calexico, Calif. His address is R. F. D. No. 1, Box 9, Calexico, Calif. Dr. Dunn writes that the climate in his locality is the kind that you read about in the papers.

Dr. A. F. Wempe (K. C. V. C. '15), of Marysville, Kans., had an elaborately decorated float in the parade held in connection with the Marysville Fall Festival recently. A blue cross was the central figure in a floral design on each side of the float.

Dr. H. G. Hock (Ind. '21) has returned to Andover, Ohio, where he has resumed general veterinary practice. Dr. Hock formerly was in the employ of the Ohio State Bureau of Animal Industry, engaged in tuberculosis eradication, in the southern part of Ohio.

Dr. W. B. Washburn (Ont. '93), of Tiffin, Ohio, was severely bruised and had several ribs fractured in an automobile accident, near West Milgrove, the latter part of October. Mrs. Washburn sustained a fracture of the nose and numerous body bruises. Their car was demolished.



A. V. M. A. PARTY IN SALT LAKE CITY

This photo was taken on the steps of the State Capitol at Salt Lake City, August 23, 1930, and shows part of the A. V. M. A. party en route to Los Angeles. How many can you recognize? Dr. J. H. Spence, of Clinton, Iowa, took the picture.

## LIST OF ILLUSTRATIONS

- PHOTOGRAPH, AMBASSADOR HOTEL, LOS ANGELES, SEEN FROM THE AIR, 2.  
PHOTOGRAPH, HARBOR AT AVALON, CATALINA ISLAND, 17.  
PARASITISM AND FISTULOUS WITHERS, 28.  
Plate 1. All drawings of *Onchocerca cervicalis* made with aid of camera lucida and enlarged, 31.
- PHOTOGRAPH, SCENE ON CALIFORNIA POULTRY RANCH, 36.  
PHOTOGRAPH, CITY HALL OF LOS ANGELES, 46.  
A PRELIMINARY REPORT ON A TEST FOR SWAMP FEVER, 58.  
Fig. 1. Photograph taken at time of test, 60.
- PHOTOGRAPH, THE THREE BROTHERS, ZION NATIONAL PARK, 72.  
SOMETHING ABOUT THE VETERINARY PROFESSION IN EGYPT, 92.  
Fig. 1. Egyptian bull used at Gemmekeh, 93.  
Fig. 2. Semintaler bull imported from Hungary and used at Government Breeding Experiment Station, 95.
- A NO. 2 ON SUBCUTANEOUS TUBERCULOUS LESIONS, 97.  
Fig. 1. Subcutaneous nodules in case 1, 97.  
Fig. 2. Spleen of guinea pig showing necrotic foci, 98.  
Fig. 3. Apparently healthy cow (case 2), with slight enlargement, 99.  
Fig. 4. The induration (case 2) might escape attention, 100.  
Fig. 5. Subcutaneous tubercles surgically removed from case 2, 101.  
Fig. 6. Numerous circumscribed lesions varying in size, 102.
- ILEO-COLIC INTUSSUSCEPTION IN A PIG, 104.  
Fig. 1. Colon and part of the ileum, 105.
- PHOTOGRAPH, HOLLYWOOD BOWL, HOLLYWOOD, 115.
- PHOTOGRAPH, IN THE LIONS' DEN, GAY'S LION FARM, EL MONTE, CALIFORNIA, 124.
- PHOTOGRAPH, VETERINARIANS AND THEIR GUESTS IN ATTENDANCE AT THE MEETING OF THE HUDSON VALLEY VETERINARY MEDICAL ASSOCIATION, 132.
- PHOTOGRAPH, CHICAGO & NORTHWESTERN RAILWAY TERMINAL, CHICAGO, 134.
- PHOTOGRAPH, GARDEN SCENE AT ONE OF THE MOST BEAUTIFUL AND MODERN SMALL-ANIMAL HOSPITALS IN THE COUNTRY, 141.
- PORTRAIT, DR. C. H. HAYS, 145.
- PORTRAIT, DR. N. F. WILLIAMS, 145.
- PORTRAIT, DR. D. H. UDALL, 145.
- PORTRAIT, DR. O. V. BRUMLEY, 145.
- PORTRAIT, DR. C. P. FITCH, 145.
- PORTRAIT, DR. H. E. BIESTER, 147.
- PORTRAIT, DR. W. A. HAGAN, 147.
- PORTRAIT, DR. C. W. BOWER, 148.
- PORTRAIT, DR. C. F. SCHLOTTHAUER, 148.
- PORTRAIT, DR. W. R. HINSHAW, 149.
- PORTRAIT, DR. R. O. BILTE, 149.
- PORTRAIT, DR. H. E. KINGMAN, 150.
- PORTRAIT, DR. W. H. LITTLE, 150.
- PHOTOGRAPH, GRAND CANYON LODGE, UNION PACIFIC LINES, 156.
- THE INCIDENCE OF SWAMP FEVER IN SASKATCHEWAN IN RELATION TO SOIL TYPE, 157.  
Fig. 1. Chart showing change of pH of slough waters, 160.
- THE RESULTS OF THE FIELD AGGLUTINATION TEST FOR BANG DISEASE, 169...  
Fig. 1. Adding blood to special abortion antigen in field test, 169.  
Fig. 2. Adding the whole blood to the special antigen with a pipette, 170.  
Fig. 3. The antigen and whole blood are thoroughly mixed, 171.  
Fig. 4. The results of the field test, 172.
- PSEUDOMONAS PYOCYANEA A SIGNIFICANT FACTOR IN A DISEASE OF CHICKENS, 174.  
Fig. 1. Spontaneous disease in two chicks, 175.  
Fig. 2. Chicks showing typical attitudes, 176.  
Fig. 3. Blood smear taken from the wing vein of an infected chick, 177.  
Fig. 4. Blood smear taken from the wing vein, 177.  
Fig. 5. Forty-eight hours after injection, 178.  
Fig. 6. Seventy-two hours after injection, 178.  
Fig. 7. Necrotic area around vein, 180.
- THE SUSCEPTIBILITY OF THE TURKEY, PIGEON, PHEASANT, DUCK AND GOOSE TO BRUCELLA DISEASE, 185.  
Fig. 1. Perivascular foci of hyperplasia of histiocytes in the spleen of goose, 188.  
Fig. 2. Perivascular foci of hyperplasia of histiocytes and hydropic degeneration, 188.  
Fig. 3. Focal necrosis and hydropic degeneration in the liver of turkey, 191.  
Fig. 4. Cloudy swelling intermingled with necrosis of the tubular epithelium, 191.  
Fig. 5. Type of lesion often seen along bronchioles, 194.  
Fig. 6. Foci of hyperplasia of histiocytes along bronchioles, 194.

- ELECTROCARDIOGRAPHIC STUDIES OF DOGS INFESTED WITH DIROFILARIA IMMITIS.** 204.  
 Fig. 1. A drawing accurately representing a normal dog electrocardiogram, 206.
- PHOTOGRAPH, AVALON BAY, CATALINA ISLAND.** 211.
- HYPERNEPHROMAS IN THE COMMON FOWL.** 218.  
 Fig. 1. An extensive involvement of the mesentery and visceral peritoneum, 219.  
 Fig. 2. Epithelial elements supported by an abundant stroma, 220.  
 Fig. 3. A higher magnification of fig. 2, 220.  
 Fig. 4. Epithelium showing a high lipid content, 222.  
 Fig. 5. A field adjacent to that of fig. 4, 222.  
 Fig. 6. Epithelium showing an elaborate interwoven network of cytoplasmic processes 223.
- AN OUTBREAK OF COCCIDIOSIS IN LAMBS.** 232.  
 Fig. 1. Lamb affected with coccidiosis, 233.
- APOPLEXY IN A BERKSHIRE BOAR.** 236.  
 Fig. 1. The dark area represents the large blood clot in the right cerebral hemisphere, 236.
- PHOTOGRAPH, ROOF GARDEN ON ONE OF THE LARGE MODERN DOG AND CAT HOSPITALS IN LOS ANGELES.** 245.
- PORTRAIT, DR. H. E. BEMIS.** 249.
- PHOTOGRAPH, LION-KILLERS, OR HAMADRYAS.** 251.
- PHOTOGRAPH, EXHIBIT OF COW'S CONTRIBUTION TO CIVILIZATION.** 252.
- PHOTOGRAPH, JUST YOUNG ALLIGATORS.** 253.
- PHOTOGRAPH, AIRPLANE VIEW OF THE RUNNymeade POULTRY PLANT.** 254.
- PHOTOGRAPH, REPRESENTATIVES ATTENDING THE THIRD ANNUAL CONFERENCE OF LABORATORY WORKERS IN PULLORUM DISEASE CONTROL.** 260.
- PHOTOGRAPH, SCENE IN GRAND TETON NATIONAL PARK.** 274.
- THE SO-CALLED LYMPHOID HYPERPLASIAS OF ANIMALS.** 294.  
 Fig. 1. Heart of a nine-year-old cow, 301.  
 Fig. 2. Abomasum of a nine-year-old cow, 302.  
 Fig. 3. A portion of the small intestine of a six-month-old hog, 303.  
 Fig. 4. Kidney of a seven-month-old hog in which were multiple tumorous nodules, 304.  
 Fig. 5. Aleukemic lymphocytoma situated adjacent to the kidney of an eight-year-old cow, 305.  
 Fig. 6. A cross-sectional view through the wall of the abomasum of a nine-year-old cow, 306.  
 Fig. 7. Solitary nodule of neoplastic cells in the liver of a two-year-old cow, 307.  
 Fig. 8. The liver of a ten-year-old cow, 307.
- PSAMMOMA IN A HORSE.** 371.  
 Fig. 1. Psammoma in ventricles of brain of horse, 372.
- RUBBER HEEL IN STOMACH OF DOG.** 372.  
 Fig. 1. X-ray photograph showing foreign body in stomach of dog, 373.
- SOFT FIBROMA ON THE RIGHT EXTERNAL THORACIC WALL OF A HOLSTEIN COW.** 374.  
 Fig. 1. Lateral view, showing large fibroma, 374.
- HYPSPADIA IN A BULL.** 375.  
 Fig. 1. Hypospadia in a bull, showing the abnormally developed prepuce, 376.  
 Fig. 2. Hypospadia in a bull, showing the normal accessory genital organs, 376.
- PHOTOGRAPH, CERTIFICATE AWARDED CUTTER LABORATORY.** 394.
- PHOTOGRAPH, THE SETTING FOR THE BARBECUE.** 410.
- PHOTOGRAPH, DR. F. W. WOOD, OF THE CUTTER LABORATORY.** 412.
- PORTRAIT, DR. MAURICE C. HALL.** 414.
- PHOTOGRAPH, THE LADIES LINED UP FOR THE BARBECUE LUNCH.** 420.
- PHOTOGRAPH, THE ENTERTAINERS THAT ADDED TO THE "SPANISH ATMOSPHERE" AT THE BARBECUE.** 422.
- PHOTOGRAPH, DR. F. W. WOOD, DR. W. L. CURTIS, DR. L. M. HURT AND DR. J. A. HOWARTH.** 531.
- PORTRAIT, DR. H. W. BROWN.** 539.
- BULLA-OSTEOTOMY IN THE DOG.** 617.  
 Fig. 1. The point at which the skin incision is made can easily be seen from this figure, 622.  
 Fig. 2. The soft areolar tissue lateral to the larynx and pharynx has been divided, 622.  
 Fig. 3. The retractors have been placed between the hyoid bone and the occipitomandibularis muscle 624.  
 Fig. 4. The same as figure 3, except a small section has been removed from the occipitomandibularis muscle, 624.  
 Fig. 5. The muscle has been pushed back, 626.  
 Fig. 6. Ventral view of a dog skull (Scottish terrier) to show the position of the bulla ossea, 626.  
 Fig. 7. Trans-section of the head of an English bulldog through the ears, 627.
- SIMPLE ATROPHY OF THE EYE-BALL.** 639.  
 Fig. 1. Longitudinal section of surgically removed tissue, 639.
- A CASE OF LEUKEMIA IN THE FOWL.** 640.  
 Fig. 1. An unusual intestinal lesion in a case of leukemia in the fowl, 640.

## INDEX

v

### EPIDERMOID CANCERS ON THE FEET OF WILD BIRDS, 641.

- Fig. 1. Dorsal view of the right foot of a slate-colored Junco (*Junco hyemalis hyemalis*), 642.  
Fig. 2. Photomicrograph of an epidermoid cancer on the right foot of a slate-colored Junco (*Junco hyemalis hyemalis*), 643.

### PUNCTURED RIGHT AURICLE IN HEART OF DOG, 647.

- Fig. 1. Ruptured right auricle in heart of dog, 647.

### PHOTOGRAPH, MAIN LABORATORY BUILDING, PENNSYLVANIA BUREAU OF ANIMAL INDUSTRY, HARRISBURG, PA., 658.

### PHOTOGRAPH, NEW A. V. M. A. MEMBERSHIP SIGN, 691.

### PORCINE OSTEOMYELITIS, PYEMIC ARTHRITIS, AND PYEMIC BURSITIS ASSOCIATED WITH BRUCELLA SUIS TRAUM, 774.

- Fig. 1. Animal showing symptoms of difficult locomotion, 775.  
Fig. 2. Metatarsal-phalangeal articulation showing soft, fluctuating swelling on volar aspect, 776.  
Fig. 3. Naturally infected pig showing emaciation and unthriftness, 777.  
Fig. 4. Walking on the carpus in an effort to relieve pain, 778.  
Fig. 5. Bisected tibia (case 2) showing necrotic osteomyelitic lesions, 779.  
Fig. 6. Osteomyelitis of the distal end of left humerus, 780.  
Fig. 7. Abscess in reticular tissue of the distal end of the right humerus, 781.

### PHOTOGRAPH, THE CORVALLIS VETERINARY OCTETTE, 795.

### PHOTOGRAPH, THE DEAN DINNER, UNIVERSITY OF PENNSYLVANIA, 803.

### PORTRAIT, DR. RUSH SHIPPEN HINDEKOPER, 805.

### PORTRAIT, DR. JOHN MARSHALL, 805.

### PORTRAIT, DR. LEONARD PEARSON, 805.

### PORTRAIT, DR. LOUIS A. KLEIN, 805.

### PORTRAIT, DR. H. EDWARD BEMIS, 805.

### PHOTOGRAPH, A. V. M. A. PARTY IN SALT LAKE CITY, 812.

## INDEX OF SUBJECTS

### **Abstracts:**

- Abortus-Melitensis Group.** Fermentation of Monosaccharids by Organisms of the, 240.  
**Abortus-Melitensis Group.** Microbic Dissociation in the, 241.  
**Adenoma of the Urinary Bladder in the Ox.** Papillary, 110.  
**Anemia in Suckling Pigs.** The Production and Cure of Nutritional, 382.  
**Anthrax Bacillus by Way of the Trachea.** Studies on the defensive and metabolic apparatus of the lungs, The Infection of Rabbits with the, 656.  
**Asthma Due to a Mold—*Aspergillus Fumigatus*,** 535.  
**B. Anthracis.** The Longevity of Dry Spores of, 537.  
**B. C. G.** Experiments in Guinea Pigs on the Virulence of, 537.  
**Blackleg Filtrate, Bacterin and Aggressin.** Action of Formaldehyde on the Aggressive Substance of, 654.  
**Blood Composition of Animals Under Pathological Conditions. III.** Feeding hens with corn smut (*Ustilago Zeae*), Studies in, 532.  
**B. Paludis:** A New Species of Pathogenic Anaerobic Bacterium, 241.  
**B. Pullorum and B. Sanguinarum.** Selective Media for the Cultivation of, 655.  
**Br. Abortus in Sealed Tubes.** 357.  
**Brucella Abortus Agglutinin in Porcine Blood,** 244.  
**Brucella Abortus in Certified Milk.** 244.  
**Brucella Abortus Infection in Man.** 113.  
**Brucella from the Stools and Bile, Cultivation of.** 785.  
**Brucella Agglutinin in the Blood and Milk of Cows.** 113.  
**Brucellosis. I.** The Significance of Brucella Agglutinin in the Blood of Veterinarians, 533.  
**Butter-Fat Production, A Study of the Relation Between the Time a Cow is Carried in Utero and Her Mature Equivalent.** 385.  
**Calcification of the Myocardium in Domestic Animals.** 788.  
**Carotenosis of Bovine Livers Associated with Parenchymatous Degeneration.** 383.  
**Castration on Muscle, Effect of.** 534.  
**Coccidiosis in Anopheles Mosquitoes.** 387.  
**Cod-Liver Oil of High Acid Content Have Toxic Properties?** Does, 112.  
**Colitis in Dogs, Experimental Acute Amebic,** 787.  
**Colostrum. I.** Relation Between Colostrum, Serum and the Milk of Cows Normal and Immunized towards *B. Coli*, The Immunological Significance of, 111. II. The Initial Feeding of Serum from Normal Cows and Cows Immunized towards *B. Coli* in place of Colostrum, 111.  
**Cryptorchidism of Pigs, Experimental.** 789.  
**Cystitis and Pyelonephritis of Cows, A Contribution to the Epidemiology of Specific Infectious.** 380.  
**Cystoscopy in Male and Female Dogs.** 239.  
**Dyes on the Virus of Infectious Chicken Tumor No. 1.** Effect of, 655.  
**Edema in Dogs in Relation to Human Edema of Renal Origin, Experimental.** 784.  
**Emetin Hydrochloride and Certain Related Compounds in Rabbits and Cats, The Oral Toxicity of.** 651.  
**Encephalitis. I.** General description, Epizootic Fox, 653.  
**Ergosterol as an Antirachitic for Chicks, Irradiated.** 385.  
**Ergosterol, The Calcification of Tubercles by Means of Irradiated.** 244.  
**Feces of the Normal Fowl, Bacterial Flora in.** 240.  
**Ferric Citrate as an Ingredient of Mineral Mixtures in Paired Feeding Experiments with Growing Swine.** 386.  
**Foot-and-Mouth Disease Under Field Conditions, The Tenacity of the Virus of.** 786.  
**Formaldehyde on the Aggressive Substance of Blackleg Filtrate, Bacterin and Aggressin.** Action of, 654.  
**Fowl Paralysis in England, Preliminary Report on an Outbreak of.** 534.  
**Fowl Plague, Active Immunization of Fowls Against.** 785.  
**Fowl-Pox and the Agent of the Rous Sarcoma, The Electrical Charge of the Virus of.** 387.  
**Fowl Pox and Vaccinia in the Chick with Special Reference to the Virus Bodies, A Comparison of the Lesions of.** 110.  
**Fowl Pox with Dead, Formalized and Phenolized Virus, Immunization of Chickens Against.** 384.  
**Gestations in Jersey Cows, Length of.** 385.  
**Hemolysin Produced by Antoxic Strains of *B. Tetani*, Studies on the.** 383.  
**Hormone, A New Source of Ovarian Follicular, 109.**  
**Hormone, Distribution and Preparation of the Ovarian Follicular.** 110.  
**Hormone Effects in Ovariectomized Monkeys, Ovarian.** 380.  
**Inflammation. IV.** Fixation of Foreign Protein at Site of Inflammation, Studies on, 788.  
**Infusoria-Free Lambs, Comparative Growths of Normal and, 109.**  
**Infusoria of Ruminants and Their Hosts, Stomach.** 114.  
**Intravenous Injection of Bacteria, Tissue Reactions in Rabbits Following.** 653.  
**Irradiation on Cobra Venom and Antivenin, The Effect of.** 386.  
**"Keel Disease" in Ducklings in Britain.** 788.  
**Malaria in Iowa, The Pigeon Fly and Pigeon.** 110.  
**Mastitis, Diagnosis by Means of the Reaction of the Milk to Biom-cresol-purple, Studies on Bovine.** 242.  
**Mucus with Special Reference to Its Antibacterial Functions, Some Properties of.** 384.  
**Mycosis in Swine, Mucor.** 789.  
**Myxomatosis of Rabbits, Observations on the Pathological Changes Induced by Virus Myxomatosis (Sanarelli), Infectious.** 381.  
**Nodular Worms (Oesophagostomum) Parasitic in the Intestine of Domestic Swine, Two New Species of.** 381.  
**Pituitary Extract on the Lactating Mammary Gland, The Physiological Effect of.** 241.  
**Plasmodium Elongatum N. Sp. an Avian Malaria Organism with an Elongate Gamete.** 109.  
**Pullorum Disease from Chick to Chick, Transmission of.** 112.  
**Pullorum Disease in Domestic Fowls. I.** Variation in agglutinability of *B. Pullorum* and elimination of the so-called "cloudy" reaction, The Serologic Diagnosis of, 243. II. The chemical nature and the mechanism of the "cloudy" reaction, 243.  
**Pullorum Disease in Incubators, Transmission of.** 245.  
**Pyobacillosis in Sheep.** 787.  
**Rous Sarcoma No. 1, Influence of Mode of Extraction on the Potency of Filtrates.** 537.  
**Salmonella Suis/ser, Bacteremia Due to.** 244.

**Scurvy, Tooth Growth in Experimental,** 652.  
***Streptococcus Epidemicus, Cows Infected with,*** 114.

**Transfusion of Portal Blood from Dogs with Intestinal Obstruction to Normal Recipients, Observations on the,** 784.

***Trypanosoma Melophagium in the Blood of Victorian Sheep, and Its Transmission by Melophagus Ovinus, On the Presence of the Non-Pathogenic,*** 655.

**Tubercle Bacilli, A Method of Detecting Sparsely Distributed,** 652.

**Tubercle Bacilli Found in Tuberculous Lesions and in Non-Tuberculous Tissue in Man, The Types of,** 735.

**Tubercle Bacillus I. Instability of the organism-microbe dissociation, Biological Studies of the,** 382.

**Tuberculin Injections in Normal and Tuberculous Monkeys, Goats and Swine, Results Following Int-areolar Arterial,** 652.

**Tuberculosis in *Rhesus Macacus* by Prophylactic Vaccination with B. C. G. Attempt to Alter the Course of Spontaneous,** 536.

**Tuberculosis in the Guinea Pig, Spontaneous,** 532.

**Tuberculosis. VI. Resistance of Guinea Pigs Vaccinated with Bacillus Calmette-Guerin, Immunological Studies in,** 534.

**Tuberculosis. The Effect of Crowding upon Tuberculosis in Guinea Pigs Acquired by Contact and Inoculation, Experimental Epidemiology of,** 238. Air-borne Contagion of Tuberculosis in an Animal Room, 238. The Route of Infection in Naturally Acquired Tuberculosis of Guinea Pigs, 230. The Effect of Eliminating Exposure to Enteric Infection on the Incidence and Course of Tuberculosis Acquired by Normal Guinea Pigs Confined with Tuberculous Cage-Mates, 239.

**Tuberculosis, The Effect of Rachitic Diets on Experimental,** 656.

**Tuberculosis. Types of Tubercle Bacilli in Swine,** 242.

**Tularemia in Sheep in Nature,** 651.

**Venom and Antivenin, The Effect of Irradiation on Cobra,** 386.

**Venoms, The Specificity of Active Immunity to Snake,** 533.

#### Army Veterinary Service:

**Changes Relative to Veterinary Officers,** 116, 247, 388, 538, 657, 791.

**Army Veterinary Officers to Meet,** 792.

**Building for Army Veterinary School, New,** 248. Fort Lewis, Veterinarians at, 389.

#### Association News:

**American Veterinary Medical Association:**

**Applications for Membership,** 4, 151, 277, 422, 551, 693.

**Convention Notes,** 418.

**Executive Board Elections,** 142.

**Hotel Rates at Los Angeles,** 140.

**Ladies, An Invitation to the,** 151.

**Places of Interest to Be Seen at,** 85.

#### Proceedings of the Sixty-seventh Annual Meeting:

**Addresses of Welcome,** 444.

**Amendments,** 450.

**Education and Research, Section on,** 666.

**Election of Officers,** 470.

**General Practice, Section on,** 663.

**Installation of New Officers,** 529.

**Invitations for 1931 Convention,** 475.

**Invocation,** 443.

**Minutes of the 1929 Meeting, Adoption of the,** 449.

**Poultry, Section on,** 670.

**President, Address of the,** 426.

#### Reports:

**Abortion, Special Committee on,** 491.

**Affiliation of State and Provincial Associations with the A. V. M. A., Special Committee on,** 488.

**Agricultural Extension Service, Special Committee on,** 457.

**American Association for the Advancement of Science,** 483.

**Budget, Committee on,** 526.

**Education, Committee on,** 494.

**Executive Board,** 450, 514.

**History, Special Committee on,** 490.

**Horse Association of America,** 481.

**Humane Society Hospitals, Special Committee on,** 516.

**Legislation Committee on,** 493.

**National Research Council,** 480.

**Policy, Committee on,** 513.

**Poultry Diseases, Special Committee on,** 503.

**Prevention of Transmissible Diseases of Animals, Special Committee on,** 500.

**Resolutions, Committee on,** 517.

**Secretary-Editor,** 458.

**Surgeon General, U. S. Public Health Service,** A. V. M. A. Committee Appointed to Confer with the,

**Treasurer, Financial Statement of,** 467.

**Tuberculosis, Special Committee on,** 507.

**Veterinary Biological Products, Committee on,** 499.

**Water-Borne Diseases of Animals, Special Committee on,** 506.

**Resignations,** 453.

**Response to Addresses of Welcome,** 448.

**Sanitary Science and Food Hygiene, Section on,** 664.

**Small Animals, Section on,** 667.

#### Other Meetings:

**Bay Countien Veterinary Medical Association,** 131, 678.

**California State Veterinary Medical Association,** 267.

**Central Canada Veterinary Association,** 677.

**Conestoga Veterinary Club,** 133.

**Delaware State Veterinary Medical Association,** 257.

**Eastern States Conference of Laboratory Workers in Pulmorum Disease Control,** 259.

**Hudson Valley Veterinary Medical Society,** 131.

**Illinois State Veterinary Medical Association,** 398.

**Inter-State Veterinary Association,** 796.

**Kentucky Veterinary Medical Association,** 309.

**Maryland State Veterinary Medical Association,** 673.

**Michigan Division, National Association of B. A. I. Veterinarians,** 258, 673, 798.

**Michigan State Veterinary Medical Association,** 306.

**Montana Veterinary Medical Association,** 675.

**Nevada State Veterinary Association,** 402.

**North Carolina State Veterinary Medical Association,** 266.

**North Dakota Veterinary Association,** 401.

**Northwestern Illinois Veterinary Medical Association,** 679.

**Ohio Conference for Veterinarians,** 126.

**Oklahoma County Veterinary Medical Society,** 133.

**Oklahoma State Veterinary Medical Association,** 263.

**Ontario Veterinary Association,** 798.

**Pennsylvania State Veterinary Medical Association,** 801.

**South Carolina Association of Veterinarians,** 266.

**Southern Kansas Veterinary Medical Society,** 807.

- Texas, State Veterinary Medical Association of,** 395.  
**Tulsa County Veterinary Association,** 168.  
**Vermont Veterinary Medical Association,** 264.  
**Virginia State Veterinary Medical Association,** 400.
- Births** . . . . . 136, 404, 543.
- Book Reviews:**
- Pharmacology. *Materia Medica and Therapeutics, Practical Veterinary*, 378.  
 Rabbits for Food and Fun, 378.  
*Pathologie für Tierärzte (General Pathology for Veterinarians)*, Allgemeine, 649.
- Clinical and Case Reports:**
- Anaphylaxis and the Ox Warble, 106.  
 Apoplexy in a Berkshire Boar, 236.  
 Arthritis in Lambs and *Erysipelothrix Rhusiopathiae*, 107.  
 Atrophy of the Eye-Ball, Simple, 639.  
*Brucella suis* Traum, Porcine Osteomyelitis, Pyemic Arthritis, and Pyemic Bursitis Associated with, 774.  
 Calf-Kill Not Poisonous, 645.  
 Cancers on the Feet of Wild Birds, Epidermoid, 641.  
 Castration of the Dog, The Inguinal Incision for, 782.  
 Coccidiosis in Lambs, An Outbreak of, 232.  
*Erysipelothrix Rhusiopathiae*, Arthritis in Lambs and, 107.  
 Fibroma on the Right External Thoracic Wall of Holstein Cow, Soft, 374.  
 Foreign Bodies in Mules, 237.  
 Hypospadia in a Bull, 375.  
 Influenza, Hog, 368.  
 Intussusception in a Pig. Ileo-Colic, 104.  
 Laparotomy, Two Cases Indicating the Value of Exploratory, 772.  
 Leukemia in the Fowl, A Case of, 640.  
 Luxation of Head of Femur in Cow, 105.  
 Magnesium Sulfate as a General Anesthetic, Experiments on, 644.  
 Mammonia in a Horse, 371.  
 Rabies, Controlling an Outbreak of, 235.  
 Rubber Heel in Stomach of Dog, 372.  
 Ruptured Right Auricle in Heart of Dog, 647.  
 Tuberculosis, Lung Lesions in Avian, 103.  
 Tuberculous Lesions, A Note on Subcutaneous, 97.  
 Warble, Anaphylaxis and the Ox, 106.  
 Wound, Punctured, 375.
- Commencements:**
- Alabama Polytechnic Institute, 117.  
 Colorado Agricultural College, 118.  
 Cornell University, 120.  
 Georgia, University of, 255.  
 Iowa State College, 119.  
 Kansas State Agricultural College, 117, 337.  
 Michigan State College, 255.  
 Montréal, Université de, 255.  
 Ohio State University, 119.  
 Pennsylvania, University of, 121.  
 Texas, A. and M. College of, 256.  
 Washington, State College of, 117.
- Communications:**
- Course? Why Not a Five- or Six-Year Straight Veterinary Course, 390.  
 Report Appreciated, Prompt, 662.
- Editorials:**
- Agenda, 139.  
 Benefactor, A Public, 550.  
 Both Ways, It May Work, 549.  
 Change in Order? Is a, 548.  
 Circulation, 692.  
 Cooperation, An Example of Practical, 416.
- Grain Surplus and Horse Power, 688.  
 Hall in Demand, President 687.  
 Ladies Royally Entertained, 410.  
 Los Angeles Convention, The, 407.  
 Los Angeles, On to, 1.  
 Papers, The Los Angeles, 690.  
 Paragraph, An Ill-Advised, 275.  
 President, Our New, 413.  
 Publicity, More 276.  
 Something New, 691.  
 Source, Consider the, 417.  
 Student Enrollment for 1930-1931, Veterinary, 545.  
 Subscribe? Did You, 548.
- Examinations, State Board . . . 134, 553, 696.  
 Examinations, U. S. Civil Service . . . 393, 684.
- Marriages . . . . . 404, 543, 810.
- Meetings, Coming Veterinary . . . 7, 153, 279  
 425, 552, 694.
- Miscellaneous:**
- Alligator Farm, The California, 252.  
 Anaplasmosis, Brown Dog Tick Transmits, 349.  
 Anniversary Commemorated, Fiftieth, 662.  
 Bemis Succeeds Dean Klein, Doctor, 249.  
 Brunett Goes to Poultry Congress, Doctor, 115.  
 Bureau Transfers, 121, 586.  
 Byrd, Certificate from Admiral, 393.  
 Conference with Public Health Service, 353.  
 Corvalin Claims a Record, 795.  
 Cow's Contribution to Civilization, 252.  
 Crespo, Honoring Doctor, 712.  
 Cuban Veterinarians, Short Course for, 692.  
 Degrees at University of Toronto, Advanced, 256.  
 Dog Week, National, 349.  
 Ebert Award, Pharmacologist Wins, 72.  
 Epizooty, The, 594.  
 Ergot, Court Upholds Decision on, 27.  
 Errata, 430, 671.  
 Fauna, A Cosmopolitan, 662.  
 Film Released, New Hog, 792.  
 Film Valhalla, "Out of the Shadows" Enters, 603.  
 Fort Dodge Bio-Chemic Review, 36.  
 Guelph, Two Conferences at, 108.  
 Hawaiian Excursion, 150.  
 Honorary Associates, Elected, 293.  
 Hoosier Veterinarian Goes on the Air, 539.  
 Horses Play Important Role in Quaker City, 343.  
 Howe Honored, Doctor, 807.  
 Hypochlorite Solutions, Sodium, 125.  
 Improvement of Live Stock, Program for, 733.  
 Indiana Restricts Lay Vaccination, 228.  
 International Veterinary Congress, 122.  
 Ladies, Commercial Firms Entertain, 327.  
 Lice Not Killed by Drugs in Drinking Water, 319.  
 Licensed to Practice, 61.  
 Licenses, Obtain California, 312.  
 Lion Farm, The Gay, 124.  
 Los Angeles, Clinics at, 140.  
 Los Angeles County Examinations, 151.  
 Los Angeles, Interested Visitors at, 442.  
 Mayo Retires, Doctor, 771.  
 Michigan Achievement Celebration, 661.  
 Missouri Offers Special Course, 783.  
 Missouri Veterinarians to Meet at Hannibal, 46.  
 Monkey Farm at Los Angeles, 251.  
 Moredun Institute Staff Augmented, 392.  
 Nebraska Meeting, 661.  
 Needed, Badly, 367.  
 Northwestern Veterinarians to Meet at Chehalis, 27.  
 Oka Augmented, Teaching Staff at, 164.  
 Parasite Found, New, 237.  
 Pennsylvania Bureau of Animal Industry Laboratory Increases Its Staff, 658.  
 Poultry Disease School at Cornell, 724.

Poultry Plant, Runnymede, 254.  
 Poultry, Short Course in Diseases of, 380.  
 Prizes for Best Letters, Cash, 256.  
 Psittacosis, The Virus of, 123.  
 Rabies Quarantine Removed in Chicago, 692.  
 "Read the Label" Talks for Feeders, 724.  
 St. Johnswort Kills Stock, 611.  
 Services Rendered For, 807.  
 Sheep-Killing Dogs, Laws Needed to Control, 794.  
 South, Two Big Meetings in the, 792.  
 Testing Record Set, New 248.  
 Texas Ladies' Auxiliary Meets, 203.  
 Tick Eradication Obstructors Sentenced, 217.  
 Tick Eradication, Southern Business Men Favor, 657.  
 Tick Quarantine, Mississippi Released from, 250.  
 Ticks, Cooperation Needed to Eradicate Cattle, 648.  
 Tropical Veterinary Medicine, Course in, 203.  
 Tuberculin, Retests Show Accuracy of, 648.  
 Tuberculosis Conference, 660.  
 Tuberculosis Eradication, Supreme Court of Iowa Upholds, 568.  
 Tuberculosis-Free County, Alabama Now Has, 679.  
 Tuberculosis-Free County, Texas Has a, 17.  
 Tuberculosis-Free, Michigan is 377.  
 Tuberculosis in Hogs Declining, 96.  
 Tuberculosis, International Union Against, 659.  
 Tuberculosis, The World-Wide Battle Against, 793.  
 Tuberculosis, Third of U. S. Practically Free from Bovine, 568.  
 Tuberculosis, "X-Rayed" Animals Reveal, 197.  
 Virginia Ladies Meet at Staunton, 246.  
 Virginia to Hold Second Conference, 733.  
 Visitors at the JOURNAL Office, 134, 367.

**Necrology:**

Arnold, Joan W., 680.  
 Arpke, H. A., 269.  
 Caldwell, Joseph H., 680.  
 Cooper, Edward, 271.  
 Davis, D. J., 809.  
 Deaver, A. C., 272.  
 Edwards, W. R., 809.  
 Falconer, Thomas, 681.  
 Farmer, C. Roy, 542.  
 Fitzpatrick, Dennis B., 683.  
 Folsom, Edward Graham, Jr., 683.  
 Gilliland, George W., Jr., 135.  
 Gingery, Howard L., 270.  
 Graham, Stanley P., 540.  
 Grau, Jeppe Andrew, 540.  
 Griffiths, Arthur Howell, 680.  
 Hill, J. Bryan, 543.  
 Hinkley, Emmett R., 403.  
 Hume, William T., 271.  
 Klinesteker, James G., 135.  
 Lane, Lawrence S., 541.  
 McBride, Archibald, 541.  
 Mason, Talmadge Scott, 808.  
 Meenan, Peter J., 403.  
 Middleton, W. G., 136.  
 Millar, John J., 270.  
 Mooberry, Clive W., 682.  
 Morgan, David B., 808.  
 Ovens, Hugh, 542.  
 Pearson, George G., 404.  
 Penniman, George P., 809.  
 Potter, George W., 270.  
 Rice, Horace E., 403.  
 Richardson, Ellerton Arthur, 681.  
 Robinson, Paul L., 541.  
 Shiler, Charles J., 682.  
 Stafford, Thomas E., 403.  
 Statte, William J., 269.  
 Stevenson James A., 272.  
 Summerfield James J., 271.  
 Trippel, Fred, 271.  
 Underhill, Benjamin Mott, 268.

Waddell, Robert A., 135.  
 Wakelin, Harvey M., 136.  
 Ware, James T., 542.

**Papers:**

Abortion Control, Sanitary Science, The Basis for Abortion Control, 697.  
 Agglutinating Power of Bean Extract for Red Blood Cells of Swine, A Method for Determining the, 229.  
 Agglutination and the Intracutaneous (Wattle) Tests for *Bacterium Pullorum* Infection in Poultry Breeding Stock, A Comparative Study of the Routine Macroscopic, 47.  
 Agglutination Test for Bang Disease, The Results of the Field, 169.  
 Anesthetics in Castration of the Male Domestic Animals, The Use of Local, 86.  
 B. *Abortus* Agglutinins in Human Sera The Incidence of, 741.  
*Bacterium Pullorum* Infection in Poultry Breeding Stock, A Comparative Study of the Routine Macroscopic Agglutination and the Intracutaneous (Wattle) Tests for, 47.  
 Bang Disease, The Results of the Field Agglutination Test for, 169.  
 Bean Extract for Red Blood Cells of Swine, A Method for Determining the Agglutinating Power of, 229.  
 Black Tongue in Dogs and Its Relation to Pellagra in the Human, 62.  
 Blood-Sugar Level of the Bovine, The, 362.  
*Brucella Abortus*, Formaldehyde and Mercurochrome in the Treatment of Rabbits Infected with, 743.  
 Brucella and Pasteurella Genera, The Inter-agglutinability of Members of the, 636.  
 Brucella Disease, The Susceptibility of the Turkey, Pigeon, Pheasant, Duck and Goose to, 185.  
 Brucella Group of Microorganisms on Chickens, The Effect of the, 212.  
 Brucella Group of Microorganisms on Chickens, The Effect of the, 350.  
 Brucella Infection, Purchased vs. Home-Grown Replacements: Their Relative Values in Building up Herds Free from, 629.  
 Brucella Infections, The University of California Committee for the Study of, 607.  
 Bulla-Osteotomy in the Dog, 617.  
 California Committee for the Study of Brucella Infections, The University of, 607.  
 Canine Distemper, Recent Advances in the Prophylaxis and Treatment of, 569.  
 Castration of the Male Domestic Animals, The Use of Local Anesthetics in, 86.  
 Certified Milk, Bacteriological Control of 320.  
*Clostridium Welchii* Infection in the Domesticated Fowl, 604.  
 Digestion, Recent Advances in the Physiology of, I. Introduction: The Mouth, 225.  
 Digestion, Recent Advances in the Physiology of, II. The Gastric Glands, 313.  
*Dirofilaria Immitis*, Electrocardiographic Studies of Dogs Infested with, 204.  
 Duck Disease Studies, Recent Progress in, 561.  
 Education in the United States, Some Problems in Veterinary, 73.  
 Egypt, Something About the Veterinary Profession in, 92.  
 Electrocardiographic Studies of Dogs Infected with *Dirofilaria Immitis*, 204.  
 Fecal Examinations in Small-Animal Practice, Routine Microscopic, 9.  
 Fistulous Withers, Parasitism and, 28.  
 Formaldehyde and Mercurochrome in the Treatment of Rabbits Infected with *Brucella Abortus*, 743.  
 Fur-Farming Conditions, Alaskan, 354.  
 Future of the Veterinary Profession The, 746.  
 Hospitalization, Small-Animal, 713.  
 Humane Organizations, Existing Relations Between the Veterinarians and, 734.

INDEX

---

- Hypernephromas in the Common Fowl, 218.  
Hyperplasias of Animals, The So-Called Lymphoid, 294.  
International Veterinary Congress, The, 706.  
Intracutaneous (Wattle) Tests for *Bacterium Pullorum* Infection in Poultry Breeding Stock, A Comparative Study of the Routine Macroscopic Agglutination and the, 47.  
Laryngotracheitis, A Note on Avian, 587.  
Legal Aspects of Tuberculosis Eradication, 18.  
Leucocyte Changes in the Blood of Diseased Swine, A Study of the, 198.  
Mastitis Caused by *Streptococcus Epidemicus*, Bovine, 328.  
Mercurochrome in the Treatment of Rabbits Infected with Brucella Abortus, Formaldehyde and, 743.  
Milk Weed (*Asclepias Latifolia*) Poisonous for Sheep and Goats, Broad-Leaved, 165.  
Museum of Pathology: A Neglected Institution, The, 554.  
Nostrums, The Chemist's Viewpoint of Livestock, 721.  
Parasites of Chickens in Ohio and West Virginia, Animal, 154.  
Parasitological Résumé, A, 431.  
Pasteurella Genera, The Interagglutinability of Members of the Brucella and, 636.  
Pellagra in the Human. Black Tongue in Dogs and Its Relation to, 62.  
President, Address of the, 426.  
Profession, The Future of the Veterinary, 746.
- Pseudomonas Pyocyanea* a Significant Factor in a Disease of Chickens, 174.  
Pullorum Disease Among Sexually Mature Fowls, The Transmission of, 280.  
Rabies Vaccine, Chloroform-Treated, 595.  
Replacements: Their Relative Values in Building up Herds Free from Brucella Infection, Purchased vs. Home-Grown, 629.  
Saline Solution Infusion in Canine Practice, Some of the Uses of Normal, 612.  
Soil Type, The Incidence of Swamp Fever in Saskatchewan in Relation to, 157.  
*Streptococcus Epidemicus*, Bovine Mastitis Caused by, 328.  
Swamp Fever, A Preliminary Report on a Test for, 58.  
Swamp Fever in Saskatchewan in Relation to Soil Type, The Incidence of, 157.  
Tetrachlorethylene, Monthly Treatment of Goats with, 338.  
Tuberculosis Control in California, A Review of, 725.  
Tuberculosis Eradication, Legal Aspects of, 18.  
Tuberculosis Offensive, The Functions of Live Stock Sanitary Officials in the, 344.  
Tuberculosis Problem, Some Aspects of the Sociologic, Biologic and Economic Phases of the, 37.  
Personals... 137, 272, 343, 404, 538, 544, 650, 684, 810.  
Publications Received... 246, 379, 650, 790.

U-8  
55  
21  
(10)  
with

